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Utile quicquid habet vitæ Podalirius artis.
Hoc in Fabritio vita caduca tenet.

FABRICIUS HILDANUS.

The writer has before him a ponderous vellum-bound folio tome of over 1,300 pages, the title of which is "Dn. Guilhelmi Fabricii. Opera observationum et Curationum Medico-Chirurgicarum quæ Extant omnia," printed in Francfort in 1746. The title page is one of those beautiful engraved frontispieces which so delight the art-loving bibliophile; having as supporters to the titles effigies of Hippocrates and Dioscorides; the one armed with a terrible appearing surgical engine, and the other with a handful of plants, typifying surgery and materia-medica. This is the collected works of that old surgical father, Gumlielus Fabricius, commonly called Fabricius Hildanus—Hilden, near Cologne, being his birthplace—to distinguish him from the famous Italian surgeon and contemporary, Fabricius of Aquependente, who was born at Aquependente, in Italy.

This famous surgeon was the first to regularly report his interesting cases, which he did in series of one hundred cases which he called *Centuries*. Six of these centuries were published by our author at different times, besides which he wrote a large number of treatises on various subjects connected with surgical art. These were collected and published in the work described twelve years after the death of Fabricius, which occurred in 1634. These centuries were probably the progenitors of the vast number of medical journals, transactions, etc., which so flood our offices and libraries; for we learn that about this time there was instituted in Germany, an annual publication, under the name of Ephemerides, which was continued for many years, or until it was crowded out by the establishment of regular medical journals.

The subject of our sketch was born in the Swiss village from which he derived the distinguishing part of his name. In 1560, like the distinguished Aquependente, he became one of the most distinguished surgeons of his age, and contributed largely to the success and improvement of his art.

He combined a knowledge of medicine with that of his own art, and began to practice both at Payerne in 1605, where he remained ten years, and in 1615 settled himself at Berne, in consequence of an invitation from the senate, who granted him a pension. Here he enjoyed the universal esteem of the inhabitants; but in the latter period of his life he was prevented, by severe and frequent attacks of the gout, from rendering his services to his fellow-citizens with his accustomed assiduity. At length, however, this malady left him, and he was seized with an asthma, of which he died at the age of seventy-four.

Among other things credited to Hildanus, or rather to his wife, is that of being the first to extract a fragment of iron from the cornea by means of a magnet. As the story is told it seems that he was called to see a peasant, into whose eye had become imbedded a sparkle of iron. He attempted different ways to extract it, making use of various instruments with a view to that effect; but the fragment continued to elude his efforts, and all his operations served only to occasion a violent inflammation in the eye of his patient. Fabricius returned home quite pensive, despairing of success, then his wife, being informed of what had passed, laughed at her husband's method of treating the accident, and volunteered her services, conceiving that she might be of some service to him. Fabricius assented to everything, and obeyed his wife who directed him to hold the patient's eye as wide open as he could. This done she drew out of her pocket a loadstone, which she moved about as near as she could to the surface of the eye, and at the same instant the sparkle of iron flew out, attached itself to the magnet and the patient found himself instantly relieved.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

MENSTRUATION AND OVULATION IN THE LIGHT OF ABDOMINAL SURGERY.

BY JOSEPH H. RAYMOND, M.D.,

Professor of Physiology and Sanitary Science, Long Island College Hospital.

Read before the Brooklyn Gynæcological Society, May 6, 1892.

The relation between menstruation and ovulation has for many years been a moot question, but thanks to abdominal surgery it is one which, if not already definitely settled, must soon be removed from debatable territory and regarded as a problem solved for all time. It is my purpose this evening, in a very incomplete way in the brief time allotted me by the by-laws, to review some of the evidence which has been gathered and which has been instrumental in changing my own opinion from that which I have taught for twenty years to medical students. Perhaps I can in no better way present the older views than by quoting from standard text-books of physiology.

concurrent; to which are to be added three reported by Dr. Annie E. Clark and two by Williams. There are doubtless other cases the reports of which I have not seen. In all these we have probably not to exceed forty instances in which by actual observation menstruation and ovulation were believed by the reporters to be concurrent. Without taking these instances up in detail, for which we have not time, it seems quite clear from the arguments of Reeves Jackson, particularly, that several of them which have been relied upon to sustain the theory, when carefully inquired into, do not prove what has been claimed for them; this is certainly true of some of the instances of Coste and Bischoff; we still have, however, a considerable number left which seem to sustain the generally received opinion of physiological authorities.

If we now turn to the writings of the gynæcologists we find statements which are at variance with the views already expressed.

A. Reeves Jackson, in an article entitled "Ovular Theory of Menstruation: will it stand?" in the American Journal of Obstetrics, October 1876, says:

"Menstruation may occur without accompanying ovulation."

"Ovulation may occur without accompanying menstruation."

"Ovulation is the irregular but constant function of the ovaries, while menstruation is the regular rhythmical function of the uterus."

Lawson Tait, in his "Diseases of Women and Abdominal Surgery," vol. i., 1889, p. 319, writes: "Ovulation and menstruation are not only not concurrent, but ovulation is much less frequent than menstruation." and :—

J. Bland Sutton, in "Surgical Diseases of the Ovaries and Fallopian Tubes," 1891, p. 11, says:

"It is very difficult to uproot a tradition, especially one so ancient as the belief in the intimate association of ovulation and menstruation, but evidence is rapidly accumulating which will show that the two processes are not so intimately connected as was formerly believed." What are the facts or observations upon which these statements are based? We find recorded the following instances in which menstruation has occurred without ovulation: Gerhard, one; Stedman, one; Meadows, one; McCluer, one; English, one; Ashwell, three; Ritchie, five; Williams, four; Paget, one; Reeves Jackson, two; De Sinéty, one; and Lawson Tait, twenty-five which positively, and fifteen which negatively sustain the views of the gynæcologists; a number greater than that relied upon to sustain the other theory.

It seems to me, after a very careful examination of the evidence which has been adduced on both sides, that the theory that men-

struation and ovulation are concurrent, must, in view of these reported cases, be abandoned, and to this conclusion I have been brought by a careful study of the subject, although when I began the inquiry I was a firm believer in the ovulation theory of menstruation. I believe also, that if the evidence which has accumulated during the past ten years had existed and could have been submitted to John C. Dalton who has been regarded as one of the strongest of the advocates of this theory, his views would have been greatly modified. The last edition of his text-book appeared in 1882, since which time abdominal surgery has made immense strides, and opportunities have been given for examining the question in the most crucial way; as an instance of this Lawson Tait, between October 31, 1884, and the end of May 1885, removed the uterine appendages in fifty-one cases, operating sometimes midway between the periods, sometimes just before, just after and even during menstruation, and the want of coincidence between the menstrual flow and ovulation was most striking, as we have already shown. It seems to me that this series of cases alone would be sufficient to determine the question beyond peradventure.

Several important facts are now known which were not known when the ovulation theory was established. Then it was thought that ova were immature until so-called puberty, and that the appearance of the menses was an indication of their having reached maturity. Now we know that ova ripen during the last month of intra-uterine life, and are found also even after the menopause.

Perhaps I cannot close this incomplete paper better than by quoting from J. Bland Sutton's admirable book on the "Surgical Diseases of the Ovaries and Fallopian Tubes" to show what is, I think, a fair statement of the present status of the question.

"In the ovary of the human fœtus, ova ripen, form follicles and undergo suppression during the last month of intra-uterine life. This has been observed by De Sinéty, Waldeyer, Beigel and others. I have also assured myself of these facts, and have also detected a similar process in the ovaries of fœtal mammals, including forms as widely separate as kangaroos and lemurs, deer and monkeys, sloths and lions.

"The life of the human ovary may be divided into the following periods of activity and repose. The first period extends from the seventh month of intra-uterine life to the end of the first year. Ova ripen in such abundance that in some cases a marked diminution in the number of the ova is appreciable at the second year after birth. To this succeeds a period of comparative repose terminating at the tenth or twelfth year, then the ripening of ova is again easily de-

tected, and goes on independently of menstruation, even after the accession of the climacteric. In female monkeys and women, ovulation and menstruation appear to be independent processes. Maturation of ova from the period of puberty until senility is going on constantly, and the presence of a ripe ovum concurrently with menstruation is a coincidence; in a healthy woman a ripe follicle may generally be found in the ovary between the tenth and fiftenth years, independently of a menstrual period. Thus menstruation may be defined as a periodical monthly discharge of blood from the uterus.

"The œstrus, rut or heat of mammals, is a term applied to certain objective signs that the female will receive the male, and is usually associated with ovulation.

"Ovulation signifies the escape of mature ova from the ovary.

"Although these three processes may occur independently of each other, still we cannot but doubt that they are physiologically associated; and it is a fact beyond dispute that if the ovaries and Fallopian tubes be removed from a woman who has menstruated with the greatest regularity for years and is still in the bloom of sexual life, we may predict with almost absolute certainty that menstruation will cease."

In order that all the evidence which can be brought to bear upon this important question may be obtained, every surgeon who has occasion to remove the ovaries, should make a careful note of the facts observed, and also of the relation of the date of operation to the menstrual period, and publish such observations where they may be available for reference.

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Pozzi.

DISCUSSION.

Dr. EMERY:—I might relate an incident which occurred in my practice ten years ago. A lady patient of mine conceived, she did not know when. She had pursued a course for several years and had not conceived, and she supposed there must be something wrong. Sexual congress had not taken place except between certain dates, and yet after eight or ten years of that course she conceived, and I presume, as has been suggested here, that ovulation and menstruation are not always coincident.

Dr. Jewett:—The character of the paper is one which does not admit of much discussion. The author's conclusions are based on facts and can hardly be controverted, and he is to be congratulated on having brought so much light to the question.

There are some points however which admit of comment. In the first place, it is an accepted tradition, and it is more than a tradition, that conception is most likely to occur at the close of the menstrual date and Naegele's well known rule for computing the date of labor is based on that assumption. Again, according to the testimony of patients, there is some degree of immunity in a certain portion of the interval between the menstrual dates, and that is another fact that needs explanation in view of the doctor's conclusions.

Most authors seem reluctant to commit themselves to a definition of the term menstruation. I do not know of any author who comes out with a flat definition. They use the term in a sense that implies its meaning, but do not define it. I would like to submit a definition for the purpose of having it criticised: that menstruation is a partial exfoliation and renewal of the endometrium. That of course has no reference to ovulation and in so far will be satisfactory to the author of the paper.

Dr. Van Cott:—The statement has been made that menstruation depends on a branch of the sympathetic plexus, and that in those cases of ovariotomy where the branch of the sympathetic plexus is not severed menstruation will continue, but if the nerve is severed the menstrual flow will cease.

Dr. Skene:—That theory was advanced by Johnston of Danville, now of Cincinnati, and it was based on the fact that a patient he saw Lawson Tait operate on continued to menstruate. This was the chief fact that led him to that conclusion, that he had not severed the special plexus that lies in the angle between the Fallopian tube and the round ligament and in that part of the fold of the broad ligament. His theory got a very bad set off by Skene Keith removing the second ovary and stopping the menstruation of the patient two or three years afterwards. That theory was established to meet a certain number of facts, and that some of the patients continued to menstruate after the supposed removal of the ovaries and yet I presume that in these cases a part of the ovarian tissue was left behind, or perhaps some of them had a third ovary.

Dr. Jewett:—Is it not true that the periodical flow does continue for a time in some cases after entire removal of the ovaries where there is a fibroma in the uterus?

Dr. Skene:—The rule is that menstruation in some of these cases will continue for a certain length of time, but if there is no ovarian tissue left menstruation will cease ultimately and promptly.

Dr. McNaughton:—I have a case to relate where ovulation occurred certainly without menstruation. The patient was thirty years old, had been married ten years and had menstruated only three times. She had become pregnant twice and conception had neither time occurred within six months of the menstrual flow. I think Dr. Jewett's question might be explained by the uterus being in a proper condition to receive the female element and develop it, as it is in better condition at that time. It seems to me I have read somewhere that the tubes have much to do with menstruation. If the tubes are removed and the ovaries left in place menstruation will cease, but sometimes if the ovaries are removed and the tubes are not disturbed menstruation will continue. I think Tait states that.

Dr. Emery:—Would it be fair to assume that sexual congress having taken place immediately before menstruation, and still menstruation proceeds in the usual manner, that pregnancy occurred before that menstrual period?

Dr. Skene:—I presume there are exceptions where menstruation or something akin to it occurs after gestation.

Dr. Butler:—I would like to ask Dr. Jewett according to his definition of menstruation—exfoliation and renewal of the mucous membrane—whether that can occur without a flow of blood.

According to the statement which Dr. Raymond has made the ovaries would have two functions, one of ovulation, the formation of a germ and its discharge; and the other, the regulation of the menstrual flow. Hence if the ovaries are removed, in the vast majority of cases menstruation ceases. The exact relation is not yet clear.

Dr. Jewett:—If my definition is accepted, it is certainly true that hæmorrhage is not a necessary attendant upon ovulation and it does not occur except in the human female, certain species of monkey and rarely in other animals.

In regard to the question raised by Dr. Emery, when pregnancy occurs the endometrium immediately begins to be developed and therefore we would not expect hæmorrhage from the endometrium of the usual menstrual character, but hæmorrhage occurring at the menstrual dates during the early months of gestation is easily accounted for. The periodical flows that occur after pregnancy begins are, I assume, due to some pathological condition, such as polypus of the cervix or other abnormal growth or condition of the

uterus. They are in no way comparable to the ordinary menstrual hæmorrhage which comes from the entire lining of the uterus, except in their periodicity.

Dr. F. Baldwin:—That menstruation is not dependent on ovulation seems evident from the fact that the menstruation sometimes continues during a larger part of the interval of pregnancy.

Dr. Skene:—That brings up the question as to whether this metrostaxis that occurs during pregnancy is a true menstruation. That has been known to occur so as to very closely simulate true menstruation.

Dr. Jewett:—It seems to me the cardinal fact is the reconstruction of the endometrium. It is periodically thrown off in part, and, I believe, renewed as though for the reception of an impregnated ovum, and it is entirely wrong to call any hæmorrhage after pregnancy a menstruation. During the first two or three months the ovum does not occupy the entire uterine cavity and it is possible for some blood to come from the endometrium of the corpus, but this I should regard as evidence of a pathological condition of the endometrium.

Dr. Chase:—I believe it is quite generally accepted that if conception occurs immediately prior to menstruation that the offspring is male and if after menstruation it is female. This I am satisfied is not a universal rule. Just how much coincidence there is between what we speak of as ovulation, and the flow of blood which we speak of as menstruation, is a question. It seems to me we can fairly infer from the paper, as well as from the experience of many others, that there is no certain coincidence between the two, that the one may occur independently of the other, but the fact still remains that so far as observation goes in the majority of instances they are simultaneous. The fact that there are exceptions, and well established ones, may not vitiate the rule that there is a close connection between the two, but it must be admitted there is in these physiological processes a good deal of variation.

Dr. Maddren:—I was wondering how some of these theories could be reconciled with the fact that a considerable number of women conceive while nursing a baby, but not menstruating. There is no change of uterine decidua there, so far as we know.

Dr. Jewett:—We have plenty of cases in which pregnancy occurs at times which under the definition of menstruation to which I have alluded would be apparently unfavorable for the attachment of the ovum, for instance at the latter end of the month, or during lactation. It is possible, as we know, that it may receive the ovum and give attachment to it even at those times, and yet it would

seem probable that the period immediately following menstruation is the time when the endometrium is in a condition most favorable for conception as Dr. McNaughton suggested. I have used the term endometrium; certain writers consider it doubtful whether the lining of the uterus is a true mucous membrane.

Dr. Van Cott:—Histologically it resembles the mucous membrane of many parts of the body, and its vascular supply is similar to those elsewhere. In the uterus the sub-mucosa is practically nothing at all, it lies almost immediately on the mucous coat of the uterus. In the rectum the follicles are the same in their structure, their hyaline tubes being lined with columnar epithelium and an examination of them shows they are also active in the production of mucus—there is mucoid degeneration.

Dr. Skene:—While it is evidently true that ovulation and menstruation do not occur together, at least in many cases, and it may be accidental when they are coincident, at the same time I object very strongly to this theory of menstruation, because we do know, if we know anything positively, that they are decidedly dependent on each other. The presence of the ovaries is entirely responsible for menstruation as evidenced by two simple facts alone—if an individual has the misfortune to be developed without ovaries she never menstruates; on the other hand even if menstruation has been fully established, deprive her of her ovaries and she will cease to menstruate. The point brought up about the tubes and menstruation, I think is fallacious. That the ovaries are responsible for menstruation there can be no doubt. I am perfectly willing to accept the fact embodied in Dr. Raymond's paper, that they occur independently of each other, just as I believe there is a decided relation between cerebration and action, that the one will not occur without the other, and yet it does not follow that cerebration and action are coincident, they may be at times and they may not be, and yet if you deprive a man of the power of cerebration he will not be able to act. I think the relation is the same here, but the ovarian genesis of menstruation is a physiological fact I most firmly believe.

I was very glad to hear the explanation by Dr. McNaughton and others of the condition of conception occurring at given times more readily than at others. I think that perhaps has practically nothing to do with ovulation, but is entirely dependent on the condition of the uterus at the time the conception takes place. That ovulation may be followed by conception at any time in the month I suppose is true, and the determining point as to time would depend on the condition of the uterus itself.

I was glad to have Dr. Jewett give a definition of menstruation. I have taught very nearly that definition, but not so concise. I have merely been able to show what menstruation was by giving a description of its anatomical characteristics, which is not always reliable. The latest definition which I have heard is one given by a gentleman who did not succeed in getting his degree: that menstruation was a periodical flow from the ovaries.

Dr. RAYMOND:—It seems to me, that a very great deal of the confusion which has existed in the minds of physiologists and others in reference to menstruation and ovulation has been due, first, to the inherent difficulty of the subject, and second, to a very important error which was made very early in the study of these processes. It can readily be understood that the changes which take place in a human ovary could, prior to abdominal section, only be investigated after death, and the opportunities which have been given for such investigation, and which have been taken advantage of are comparatively few. It is only within the most recent times when ovaries have been removed during life that really reliable observations have been made and that we have obtained evidence which has been of real value; of course there have been isolated instances in the past, but they have been comparatively few in number. The evidence of ovulation, the evidence that a Graafian follicle has ruptured and discharged an ovum, has always been considered as complete when a corpus luteum has been found in the ovary. The number of instances in which the ovum itself has been found in the tube or uterus are exceedingly few. A body which has a diameter of but 1–120 of an inch can very readily escape observation, especially when it is concealed in a mass of blood, or located in a tube like the Fallopian, or a cavity like that of the uterus. So that our knowledge of ovulation depends almost entirely upon the study of corpora lutea, and as I have just said, the opportunities for the study of these bodies, which result as you all know from the changes taking place in ruptured Graafian follicles, were few until the days of abdominal surgery. Then it is also a mooted question whether every corpus luteum indicates that the Graafian follicle which preceded it and from which it originated, did give exit to an ovum. It is still a mooted question whether a Graaffian follicle may not rupture and go through the process of formation of a corpus luteum and yet not discharge an ovum at all, and that therefore the mere presence of a corpus luteum is not conclusive evidence that an ovum has been discharged.

The other error to which I referred, and this is undoubtedly the greatest, is in regarding what is known as rut or heat of animals

as the same process as menstruation in the human female. Now there is no doubt at all that heat or rut in animals is synchronous with ovulation. It is a well known fact among those who have studied this physiological process in the lower animals that it is at the rut when above all other times conception takes place, and in fact it is the only time when many animals will receive the male ; indeed there are instances in the animal creation in which this is the only time when intromission is possible, as the vagina is closed at other times.

Now it has been inferred by physiologists that because pregnancy is more liable to take place at the time of rut in the lower animals, and because in their judgment rut was synonymous or practically the same thing as menstruation in the human female, therefore menstruation and ovulation in the human female are synchronous. Everyone knows that if there is a time in the life of the human female when intercourse does not and naturally will not take place it is during menstruation, and yet that is the time when in the lower animals intercourse does take place and then only. It is true among some animals, as for instance pigs in their wild condition, the approach of the male is only allowed at that time, but among animals in a tame state where the female is brought continuously into relation with the male the periods are not so distinct as in the wild state. First of all we must settle this question: is rut in the lower animals the same as menstruation in the human female? The evidence is conclusive that they are entirely distinct.

What is menstruation? Dr. Jewett defines it as a partial exfoliation and renewal of the endometrium. There are three theories in reference to the changes which take place in the uterine mucous membrane at the menstrual period. One is, that the entire mucous membrane down to the muscular coat is thrown off; a second, that the epithelial layer only is thrown off, and the third that there is nothing thrown off. Now the cases which have been reported by histologists in support of the theory that the whole mucous membrane is thrown off are in almost every instance cases of disease, women dying of typhoid fever, pneumonia or other than sudden or accidental causes. The mucous membrane in each of these instances was that of a pathological uterus, and I think these observations may, without any exception, be thrown aside as being entirely unreliable. It is like the experiment which was made at one time to ascertain the amount of saliva secreted daily by a human individual. The examination was made of patients in a hospital, and when an investigation was made from a true physiological standpoint the results did not at all coincide. If we wish

to ascertain the amount of saliva secreted by a healthy individual we must not go into a hospital and examine a lot of unhealthy people, and the same thing applies in this case; we must not examine the uterine mucous membrane of women who have died from disease in order to ascertain the changes which take place in that membrane during health.

Dr. Jewett has referred to a species of monkey in which there is a periodical discharge of blood, which is considered the same as menstruation in the human female; Bland Sutton has made abundant observations on these monkeys and he gives it as his opinion that there is no discharge of mucous membrane in these cases, so I think the evidence is that the mucous membrane is not exfoliated during menstruation, and if any change does take place it is merely exfoliation of the epithelium.

Johnston's nerve theory of menstruation has been refuted, I think, by Skene Keith's case, although Tait makes the point that in those cases where he has been careful in his operation to include in his ligature the trunk of this nerve, which has been described as being between the round ligament and the ovarian ligament, he finds that menstruation is almost always absent after the operation, but where he does not do that it is more likely to occur.

Tait's theory is that the tubes are largely concerned in menstruation. There are two cases on record where the tubes which were diseased were entirely removed, and the ovaries which were healthy were left, and menstruation continued; so menstruation could not in those instances, at least, have been dependent on the tubes.

One very strong argument in support of the theory that menstruation and ovulation are not concurrent is the fact that pregnancy does not take place oftener than it does. The child-bearing period from fifteen to forty-five, is a period of thirty years, during which there are twelve times thirty or 360 menstruations. Supposing that pregnancy took place at every possible time, the number of pregnancies which women would have would be enormously in excess of those which they do have. We must bear in mind that there are other conditions for impregnation besides ovulation and menstruation. The ovum must pass from the ovary into the Fallopian tube and the spermatozoa must come in contact with it. How does the ovum get into the Fallopian tube? Some claim that the Fallopian tube grasps the ovary, others claim there is no such process taking place, but that one of the fimbriæ is grooved and through that groove under the influence of the ciliated epithelium the ovum reaches the tube and then passes into the uterus. Some say there

is no such groove but that it is the action of the ciliated epithelium which is constantly causing a current in toward the Fallopian tube, which accounts for the passage of the ovum. If the ovum gets into the Fallopian tube we are liable, if the spermatozoa come in contact with it, to have impregnation, so every ovulation we have the ovum does not always find its way into the tube. The probabilities are that in proportion to the number of ova developed only a small proportion find their way into the tube, and that many of them simply drop into the pelvic cavity.

Why does pregnancy take place during menstruation or in the neighborhood of the menstrual period? It is necessary for the vitality of the ovum that the mucous membrane of the uterus should be in favorable condition, and that condition occurs about the menstrual period. If an ovum comes upon a fold of membrane not ready to receive it, even if that ovum is impregnated it will not attach itself and undergo development; that would seem to go without saying.

Some one asks whether ovulation goes on during pregnancy. The truth is we do not know, do not know much about ovulation except as we see the corpora lutea in the ovary, and we know they are found in the ovary long after the menopause, one described as perfect as any ever seen having been found in a woman seventy years of age, long after menstruation had ceased. We now know that Graafian follicles are discharged and corpora lutea are formed even during the latter part of intra-uterine life, and yet no one claims that there is any possibility of pregnancy taking place at either of those periods. Lawson Tait believes that the tube grasps the ovary and that this occurs for the first about the time of puberty; that there are muscular fibres running from the tube to the ovary which produce this approximation, and that then for the first time can the ova be impregnated, and that at the menopause these fibres atrophy and there is no longer any grasping of the ovary, and that in order therefore to have pregnancy we must have the concurrence of ovulation, and of this grasping of the ovary.

It seems to me it is only by the collection of such facts as Tait has reported that this matter can be definitely settled, and if in fifty-one instances we have an entire lack of concurrence between these two processes, then it does seem that the relation of the two as cause and effect must be given over. It seems that the only definition of menstruation which we can now give is that it is a periodical monthly discharge of blood from the uterus; that phenomenon is the only one we know to be regular in its recurrence. When the histologist shall demonstrate the changes which take

place in the mucous membrane, if indeed there are any such, we may then be able to modify this definition. But at present I think we can scientifically go no further.

In reference to the question of the continuation of menstruation from a supplementary ovary. There is no case on record where a supplementary ovary has been found, and what have been called supplementary ovaries have been portions of an ovary which have been constricted off from the organ, very much as we sometimes see in those kidneys where we have the kidney divided, and apparently it would be just as proper to speak of each one of these as a supplementary kidney. So far as I recollect there is no case on record where menstruation has continued after both ovaries have been removed, provided that the ovaries were not diseased and the operator has removed the ovaries entirely. Those cases where menstruation continued have been one of two classes: either those in which there have been such extensive adhesions that when the ovaries were removed the operator could not be sure that a portion of ovarian tissue was not left behind, which however small would be enough to cause menstruation; or else cases in which a fibroid was subsequently shown to be present.

Dr. SKENE:—The question has been raised as to whether the endometrium is a mucous membrane or not, and that fact has been doubted. I think some claim it is not a mucous membrane at all. It is rather important for gynæcologists to have some definite ideas on that subject. My own thought amounts to this: That all surfaces I have encountered in these cases are covered with either integument, serous or mucous membrane, and I have never been able to find any good reason to suppose that that little patch lining the uterus was an exception to the rule. That it may be a mucous membrane that differs very materially from mucous membrane in other parts of the body we are ready to accept. There is a confessed difference between the mucous membrane of the body, and cervix uteri; the stomach and bronchial tubes have different forms of mucous membrane. That the mucous membrane of the body of the uterus behaves more like a gland and performs functions more like glands than some other portions of the mucous membrane may be true, but because of its peculiarities, to deny for a moment that it is a mucous membrane never seemed to me reasonable. Suppose we raise those two questions then: first, do the function and structure of this portion of mucous membrane differ so from all others as to require that it should be called by some other name than mucous membrane? Next, how, in view of the fact that physiologists and pathologists are not definitely agreed upon the behavior

of the mucous membrane while performing the menstrual function, can we say that if the mucous membrane of the uterus is removed entirely by the surgeon it will be replaced in its normal integrity?

You will see the bearing of that question when we read in the papers to-day that in order to cure endometritis it is necessary to use an instrument and remove every part of the mucous membrane of the uterus, and then you will cure the metritis with acid or iodine. Now the question is, if that is done will that membrane be restored, or have you damaged the organ for all time? If it had been proved that the mucous membrane had been thrown off clear down to the muscular tissue, the sub-mucous tissue being all thrown off at the menstrual period and yet the entire membrane restored as good as new, then we might hope for the restoration of the mucous membrane when it was removed by the surgeon. If that is a fact and it is restored in its original condition, then it differs from integumentary surfaces and mucous membranes and all other tissues in the body in its power to be replaced.

Dr. Raymond:—Tait says he makes it his rule after ovariotomy to curette the uterus, and since doing that he has never failed to cause an entire cessation of menstruation after his operation. His idea is that many cases cannot afford to lose menstrual blood, and rather than have it occur ten or twelve times he would rather have it stopped altogether. The presence of menstruation is not a contra-indication to ovariotomy, but the contrary. In many cases a loss of blood is a serious item, and he would choose the menstrual period as the time for operation. Promptly after ovariotomy menstruation will recur, whereas if he does the operation during menstruation he will save that much blood.

Dr. Jewett.—In answer to the question whether the mucous membrane can be renewed after it is removed, I recall a study recently published of the results of caustic and the sharp curette upon the endometrium. After caustics a great deal of cicatricial tissue was found, but where the sharp curette was used the mucosa was promptly renewed, the difference being explained by the fact that the currette left fragments which served as nuclei for the growth of the new endometrium. We have evidence that it may be renewed sufficiently for all practical purposes, in the fact that conception frequently occurs shortly after curetting with a sharp curette.

Dr. Raymond:—Do we not have complete renewal of the mucous membrane when the decidua is thrown off? I think we have plenty of evidence that it can be rebuilt very rapidly.

TYPES OF MALARIA SEEN IN BROOKLYN.

BY GORDON R. HALL, M.D.

Read before the Medical Society of the County of Kings, September 27, 1892.

Malaria in Brooklyn has been so fully presented to the Society within a few years by Dr. Wm. H. Thayer, as to make it rather difficult to add anything new to his paper of February, 1886. I have, however, interviewed several medical gentlemen who have been in practice here for a number of years, and have obtained their opinions and views in regard to a few points in connection with malaria as we see it here in Brooklyn.

Answers to the following questions perhaps cover the ground:

1. Do you find a difference between malaria as it was years ago and now?

There seemed to be considerable unanimity of opinion in regard to this point. Years ago, say twenty or more, there was quite an amount of well-marked intermittent fever—the classical chill, fever and sweating.

Probably not all of it originated here, but much of it must have, as the responsibility for it seems to have fallen upon certain sections.

In later years the type seems to have changed. Dr. Wm. H. Williams, of Seventeenth Street, who has had a long experience in that part of the city, and has been a careful observer, says: "Forty or fifty years ago we would have intermittent fevers from June to the end of the summer, and then remittents as well as intermittents, and after a severe frost they would get well until February or March."

Now we see little remittent, considerable marked intermittent. Dr. Stub has not seen many marked cases of intermittent for some time past until this year, when he has seen them more marked than for ten years past.

Dr. Paine can remember only one case of decided chill, fever and sweating which originated in Brooklyn; a number of cases which started elsewhere.

2. In what part of the city did the most marked cases originate?

Dr. Stub says he found that a large proportion of the well-marked cases which came under his observation were scattered over that tract extending from Atlantic Avenue to Greenwood, along Third and Fifth Avenues, and a curious fact was that the

higher lands between Fifth and Sixth Avenues, but nearer Fifth, seem to have been more affected than those nearer the canal. Pope's Park, (just the other side of Greenwood), the highest ground around, suffered badly. Any one there after dark was pretty sure to contract malaria. All Bay Ridge was affected, where there are hardly any cases to be found now; not now confined to any particular locality and far less in amount than formerly.

Dr. Otterson, recently living in Washington Street, says: "Even fifteen or twenty years ago there was little malarial fever in my locality which originated there."

Along Carlton Avenue, from Flushing, there were cases of marked intermittent; not much along the water front.

Dr. Williams says there was more or less intermittent from the central part of the city southward; not aware that the water front or the canal are especially affected. Some of the highest land has been worst afflicted.

Dr. McCorkle says that he has seen considerable along the water front and canal, in the neighborhood of Columbia and Hicks Streets, though much of it may have originated elsewhere.

Dr. Paine says that three or four years ago there was considerable malaria in a region taking Gates Avenue and Cambridge Place as a centre.

There have been also temporary invasions of malaria from time to time in different localities, due to sewer digging and turning of large quantities of earth for many purposes.

3. To what extent do you find other diseases affected by malaria?

Experience seems to have been pretty much the same in this respect. Bronchitis and pneumonia are particularly modified by malaria. The so-called typhoid-malaria is not at all uncommon. Neuralgic and nervous diseases seem to be particularly affected. Then there are many cases of gastro-duodenal disturbance without much rise of temperature, and with enlarged spleen, intermittent vomiting and colic. All these cases are influenced at once by quinine.

Dr. Otterson has seen one case of abortion during an attack of intermittent fever, but thinks that it was due to large and repeated doses of quinine, rather than to the fever.

In other more pronounced malarial regions, where the constitution had been slowly weakened by the poison, abortion from the disease alone, might be possible. Whether pregnancy reawakens a dormant malarial tendency, it is difficult to say.

Carelessness of diagnosis probably affects our ideas of the prevalence of malaria to a considerable extent. Slight rises of temperature, various confused pains, heavy feelings, etc., are laid at its door, when, perhaps, careful investigation would lead to the discovery of a different cause. Then, on the other hand, there is the class of gastric and intestinal cases above referred to, which might not at first point to malaria as their chief cause. It certainly is a fact that many persons who have been victims formerly of malaria find their subsequent ailments more or less intermittent in character, with a tendency to recurrence, particularly neuralgic and nervous affections.

Whether we find enlarged livers here in Brooklyn as a result of malaria is doubtful.

On the whole, it seems as if the type here in Brooklyn had changed in the last twenty years, giving us a more masked and indefinite form in place of the old intermittent, but often requiring much delicacy of diagnosis and care of treatment in its blending with other affections.

THE NERVOUS AFFECTIONS THAT MAY ARISE FROM MALARIA.

BY WILLIAM BROWNING, M.D.

Read before the Medical Society of the County of Kings, September 27, 1892.

Of the various toxic agents, including thereunder infections as well as purely chemical poisons, that often attack the nervous system, malaria is one of the more common, the relative frequency, however, varying greatly with time and place. These parallel causes produce more or less comparable series of cases.

By malaria I mean not simply mal-aria, or bad air, but a distinct and infectious disorder.

It is especially in the larvated and chronic forms of intermittent poisoning that the nervous system becomes prominently involved. In such cases the patient may seek advice for the nervous affection simply. The true cause can then only be arrived at indirectly, and often one feels the lack of safe clinical guides. The blood-changes that in typical ague may be utilized for certainty in diagnosis, are, so far as we know, not present, or at least not easily demonstrated

here.[1] Where exacerbations or remissions occur the diagnosis is much assisted; but for the most part these are continuous conditions, and many of the manifestations are of secondary origin. Hence the personal equation of the observer may affect somewhat the trustworthiness of the etiological diagnosis. Many of the severest cases seen in Brooklyn have contracted their infection elsewhere; still those of home origin are ample in number and variety.

Though no recent or comprehensive review of this subject seems to have been made, it is customary and convenient to classify such cases according to the part of the nervous system specially attacked.

A. Brain.

B. Spinal Cord.

C. Peripheral Nerves.

A. The brain troubles attributed to this cause include: Intracranial inflammations of a meningitic type, mental disorders, pigmentary deposits,[1] epilepsy, chorea, aphasic symptoms, hysteria (Regnault's case, Gaz. des Hôp., 1890, No. 3), neurasthenia and hystero-neurasthenia (Teissier's two cases, Bull. Med., Paris, 1890, iv., 397–9).

These various forms merge, however, more or less, into one another. There is also an easy source of error in attributing to the brain proper various manifestations of neuritis of the cranial nerves, particularly those of the eye. In fact, it is more functional and symptomatic than settled organic brain disease that we see.

Meningitic troubles due to malaria in children are described by Forcheimer (Keating's Cyclopædia). Ferreira (Archivio italiano di pediatria, 1889, v. Arch. f. Kinderheil., Bd. xii.) "distinguishes four varieties of the cerebral form [of malaria] which are especially seen in children during the heated seasons, and which are very frequent and very dangerous. These varieties are: 1. The eclamptic form. 2. The comatose form. 3. The delirious form. 4. The meningitic. The last two are observed more in older children."

That any wasting disease may lead to tubercular or other meningitis is well known. Without autopsy it is difficult to assert the occurrence of a meningitis strictly malarial, although it is certain

[1] In Da Costa's severe case ("Malarial Paralysis," *Internat. Clinics*, Oct. 1891,) characteristic forms were found.

[2] The question of pigment emboli and deposits is essentially one of pathology, though Hammond (Trans. Am. Neurolog. Assc., 1875,) and others have sought to deduce their clinical bearing. Councilman and Abbott (Am. Jour. Med. Sci., 1885, April) have described these in connection with hyaline bodies, but interest of late has shifted to the subject of micro-organisms.

that such a clinical type may develop in the pernicious forms. I will mention two cases. One, a man of twenty-six, was seen with Dr. Maddren in May, 1886; of good history; had contracted malaria in Memphis and suffered from it at intervals during the six months since his return. After some premonitions he wandered off from his home and was found by the police. He presented the usual symptoms of an acute encephalo-meningitis, and died in less than three days.

The other case was that of a girl of nine years, under my care in the fall of 1887; other members of the family said to have suffered from malaria recently. For a couple of months this girl had diurnal attacks of sleepiness, chilliness, yawning, fever, and often vomiting. At first these occurred two or three times a week, then every other day, and now daily. She lived a month after I first saw her, and for a time the chills were reduced again to every other day. She was brought to me for some general twitching, more on the left side, and a weakness in the left leg of two days' standing. There was paresis, tenderness, and swelling of the left lower extremity; left lower facial and half of tongue were also weakened; spleen greatly enlarged; temp., 100°. In a few days these left-sided symptoms nearly disappeared; but emaciation, variable fever (at times to 104°), and speechlessness, except crying attacks, became marked. Then an ordinary right hemiplegia developed, with variable contracture in right arm. These right-sided symptoms also improved somewhat, except the aphasia. She died some ten days later.

If such cases are of truly malarial nature, then it is equally a fact that when once developed they are exceedingly intractable to anti-malarial remedies.

Mental Disorders:—The paroxysmal type is illustrated by the case of a girl of twelve years, seen with Dr. H. C. McLean in March, 1891; of rather nervous parentage; has recently had mumps and whooping-cough, from which latter she has not yet fully recovered. Some two weeks ago she developed a remittent fever. Just as this appeared to be broken up she began to have peculiar sudden attacks, lasting an hour or more, often two or three times a day, and without equal-lengthened intervals. In these she is mentally alienated; more than simple febrile delirium; talks connectedly, but with perverse wickedness—abuses her parents, uses vile language, proposes to change her religion, says she is never going to get married, etc. She also complains of pain, first in one part of the body, then in another (shoulder, leg, ear, etc.) Some irregular fever has been noted, but not much perspiration;

perverse insomnia. In the free interims she wants to be about the house, and is quite her natural self. Seen in an attack: Hands cool, almost chilly; a general tremulousness, like an imperfect chill; P., 156; T., 103½° (in axilla); no enlargement of splenic dulness on percussion.

Dr. McLean reported that she soon recovered on anti-malarials, and remained well, so far as concerns the mental condition. But other cases of mental affection are described which do not follow the intermittent type.

Drs. Georges Lemoine and J. Chaumier (Annales médico-psychologiques, 1887, i., pp. 177–209; seen only in abstract), under the title "Mental Disorders in Cases of Malarial Disease," have treated this subject at length. They distinguish cases occurring during the febrile attack, those in convalescence from malarial fevers, and those in chronic malarial infection. One of their conclusions is that "there very probably exists a form of paludal pseudo-general-paralysis."

A case of morbid juvenile pyrophobia attributed to malarial toxæmia has been published by King (Alienist and Neurologist, 1880, July).

Epilepsy.—Malarial poisoning is recognized amongst the rarer causes of epilepsy. As the eclamptic spasms of infancy are so often due to sharp febrile attacks, and as the chill of intermittent is due to arterial spasm, it is not strange that malaria may cause convulsions, whether truly epileptic or not. This was evident in one young man (of twenty-two years), who several months previously developed epilepsy directly after an attack of chagres fever at Panama, although, as he was seen but once, the therapeutic proof is wanting. Fits lasting a couple of hours had recurred every month or two. In certain other cases it has seemed probable that this was one of the primary factors, the convulsive habit, as is well known, tending to continue independently when once started. In still other histories, some of them given in this paper, there is mention of epileptiform seizures. In some cases from this cause the convulsions seem to be a substitute for at least one of the manifestations of a rigor; in others they appear to be an indirect effect through the systemic poisoning. In this trouble, as in the malarial paraplegias of childhood, males seem to be predominantly affected. Historically, it may be said that the literature of this matter is not extensive. Many earlier East Indian and other cases are given by Handfield Jones in his work on "Functional Nervous Disorders" (Phila., 1868). Hammond (*l. c.*) has reported one case. McLane Hamilton (Pepper's System, V., p. 472) refers to Jacobi's

case (1879) and adds one of his own. It was in a young man; some periodicity in the attacks; great preliminary rise in temperature; intercurrent somnolence and facial neuralgia. Two cases of malarial pseudo-epilepsy, recovery, are given by H. C. Wood, (*Phila. Med. Times*, 1883, May 19.

Various references and observations are given in an editorial in the Alienist and Neurologist for April, 1886 ("The Malarial Epileptoid Nature of Narcolepsy"). Recently Morini has added a case ("Di una febbre perniciosa epilettica con afasia e paralisi del nervo facciale destro"). According to Dr. Tusa Salvatore ("Su di un caso di epilessia da malaria cronica," Riforma Med., 1891, Dec. 13, p. 723; patient, a chap of sixteen years) such an epileptic form of pernicious fever has been mentioned by various ancient and modern writers—Frank, Griesinger, Kelsch and Kierner.

E. W. Hill (Bost. M. & S. J., 1892, i., p. 651). gives two cases in boys of eighteen and nine years, though it is doubtful whether the former was epilepsy, as it was so soon fatal. He also credits Echeverria (1870) with two cases.

Krafft-Ebing describes as larvated intermittent the case of a man of 29, (*Wien. Med. Presse*, 1892, No. 1, *v. Centbl. f. m. Wissc*, 1892) who in the recurrence after a head injury, had attacks of epileptic convulsions, dizziness, stupor and delirium. The neurotic symptoms attended the intermittent (first tertian, then quotidian) but were not febrile, as their intesity did not correspond to the degree of fever. Quinine and arsenic cured, the nervous attacks vanishing sooner than the fever.

Chorea, if produced by malaria at all, has seemed to me to be only a rare secondary effect, though some choreiform twitchings are occasionally seen, as in one of the cases already given.

Hammond (*l. c.*) attributes one case of chorea to this cause, and Vought (in Starr's "Familiar Forms of Nervous Disease") 3 out of 124 cases.

Dr. C. F. Barber, speaking of observations in the nerve department at the Eye and Ear Hospital, and Dr. Maddren, from his long experience in the children's room at the Central Dispensary, have noticed, as they kindly inform me, that in many of the choreic children from the lower and outlying wards quinine is a valuable adjunct in treatment, whilst in other choreics this has not been noticeable in comparison. They conclude that in numerous cases malaria is a factor favoring the development of chorea, and that then direct treatment of this element hastens cure.

Aphasia:—More or less marked speech troubles, though usually quite absent, are nevertheless rather common in these nerve cases

from malaria. In fact, there is sufficient evidence to establish this as a valuable positive symptom when present. Attention was directed to this by Singer. Morini's mixed case above includes this symptom. I have noted it in some of the paraplegic cases, and also in two given elsewhere in this paper. This type was also thought to be present in the case of a colleague seen last spring, In many of these cases there seems to be only an impediment or difficulty in talking, as though it required a greater incentive than usual. In others it is more distinctly an aphasia or a paraphasia. As to its exact nature and seat there is chance for some difference of opinion.

B.—SPINAL TROUBLES.

It is not as yet established that these are ever of malarial origin, although Morton Prince, of Boston (Jour. Nerv. & Ment. Dis., 1889, Oct.) believes it for certain cases of tabes and disseminated sclerosis. Torti and Angelini have also recently described chronic malarial infection with symptoms of sclerosis en plaques. In this respect the paludal poison is comparable to alcohol. It affects preferably the peripheral nerves, but in many cases the brain is either also involved to a limited extent or may alone suffer. For some unexplained reason the cord seems to have a remarkable immunity to both these agents. In various spinal cases one finds a past history of malaria, but not closely enough connected with the myelitis to be considered the cause.

It has been suggested that cerebro-spinal meningitis might be of misasmatic origin. A boy of five years, living beside Gowanus Canal, seen with Dr. Maddren in April of this year, was sick several weeks with variable fever, general tenderness, distinct opisthotonos, etc. He did best on anti-malarials, and finally recovered, but it was not a clear case. Dr. Bartley gives the following notes of a more definite case in a boy of three years: He was seen by several competent men and considered to be suffering from sporadic cerebro-spinal meningitis. There was wry-neck, pain on motion of head, tenderness along post-cervical region, and on percussing over the spleen, low fever, tache cerebrale, anæmia, etc. Under quinine he recovered completely in a week. In such forms as this there can only be a pseudo-meningitis, but its occurrence may explain some of the so-called sporadic cases.

C.—PERIPHERAL NERVES.

Of this class are a majority of the nerve cases from malaria as seen in general practice. Most of these fall under one of two clinical types: (*a*) Neuralgia, (*b*) Neuritis, although (*c*) Contractures,

and (*d*) Paralyses appear also to occur as independent manifestations.

a That neuralgia is frequently due to this cause is so well known that, though a very important fact, it need be but briefly considered. In neuralgia remissions are the rule, whilst in neuritis any such feature is necessarily obscured. Doubtless the neuralgia is often but the first stage of neuritis. Whilst, perhaps, any nerve in the body may be attacked, there are certain favorites. Amongst neuralgias brow-ague and sciatica are best known, though in Brooklyn, at least, other forms are common. One case of severe cruralgia (left anterior) was in a night engineer employed in the basement of a New York printing establishment (seen in Jan., 1888; has remained free since). Visceral neuralgias, taking the form of colic, are often very severe, as in a recent case contracted in West Florida. Another form in a colleague (living on the line of the great storm-sewer excavation) was located by him deeply beneath the bridge of the nose, and a lighter similar case might be added. Various headaches, more or less migranous in character, are common, and, unfortunately, these may continue later as a less frequent hemicrania or migraine. In one case (wife of the just-mentioned colleague), where the brachial plexus with the arm-nerves was the seat, tender points became established at neck, shoulder and elbow. In the preradial region the pain became especially severe. Reddish papules, with incipient ulceration, appeared over ball of thumb, and a couple of the former even up the arm. This cutaneous trouble was possibly herpetic in its nature. The whole yielded promptly to systemic remedies.

Two cases of paludal neuralgia of the tongue leading to ulceration have been recorded by Diberder (1891).

The literature of this branch is too vast for more than a few brief references.

H. C. Coe (1891) found the malarial element to be important in one case of oöphoralgia. Malarial cardialgias and gastralgias are mentioned by Rosenthal (1885).

The following excerpts are from an article by C. Heinemann, "On Malarial Diseases, etc., in Vera Cruz" (Virch. Archv., cii., 1885, p. 467):

"(*e*) Rare but very important is the form accompanied by distinctly intermitting, often excessively severe, colic attacks and by obstinate constipation, in which neither clystiers nor narcotics are of use, but practically a few doses of quinine."

"(*g*) Cerebral form, principally in children (unrest, delirium, coma, etc., at attack)."

"(*h*) Eclamptic form, frequent in children, but entirely favorable in prognosis."

P. 490: "Most frequent are neuralgias in the trigeminal region, almost as frequent are those in the region of the cervical plexus, much less often pure intercostal, and most rare sciatica. Phrenic neuralgia is strikingly common, notably in women."

b Neuritis:—This affects single nerves, a whole plexus, or may appear as a general multiple neuritis. However, these cases of involvement of particular nerves are rarely without other manifestations. Although Goldscheider has recently remarked that participation of cranial nerves in the lesions of multiple neuritis is very uncommon, such is certainly not the case in forms due to diphtheria or malaria. Of single nerves, the facial is occasionally attacked, as, possibly, in Morini's case, and certainly in at least one of my own. In Singer's case of general malarial neuritis both facials became involved.

Without question the optic nerve is especially prone to this affection, as shown by my own and many other cases. To this MacNamara has called attention ("Malarial Neuritis and Neuroretinitis," Brit. Med. Jour., 1890, March 9).

The following quotations are from Kipp ("Eye affections from malarial poisoning," Trans. Med. Soc. of N. J., 1881, p. 121): "Temporary amaurosis, commonly of both eyes, has been repeatedly observed as a complication of the paroxysms of intermittent fever." "Optic neuritis after intermittent fever has been observed a number of times." "Atrophy of optic nerves was observed to follow intermittent fever of long duration in two cases by Peunoff." "Partial or total loss of vision of one or both eyes, without visible changes in the eye, and therefore probably dependent on disturbances in the nervous centres, as a sequela of latent or manifest intermittent fever, has been observed a number of times." "The amblyopia which is developed in patients who have suffered for a long time from pronounced intermittent fever is undoubtedly often due to albuminuric neuro-retinitis, as I know from personal observation, but certainly not in all." Sulzer's observations (1890) amply bear out most of the statements of Kipp.

Of cases involving a plexus or group of nerves, there is quite a variety. Dermatologists teach that some forms of herpes, especially the oral, may be due to this cause. Dr. Maddren has found that herpes zoster in children is frequently of this origin, whilst Yandell ("Malaria and Struma," *Amer. Pract.*, 1878, Jan.) claims that all forms of herpes may be due to malaria. That quinine affords relief in such cases is, perhaps, not sufficient proof of the cause.

From two recent cases, there appears to be a special form of malarial neuritis, selecting more particularly the cranial nerves, and simulating brain tumor.

1. A girl of seven-and-a-half years, sent in on March 26, 1892, by Dr. Hirschmann, who had been treating her for malarial manifestations. Of other children, four are living—one a bright child now seventeen years old—and four are dead, one older, and another of diphtheria at three-and-a-half years. This girl also had diphtheria two years ago, and is said to have subsequently had one attack like the recent ones. Formerly very spare, but since scarlet rash last June has been growing stout, and is now excessively so; hands and feet said to have been swollen; puffy, florid complexion; always troubled with "snuffles"; now, for two weeks, every other day, a "bad spell," as it is called. Just before these, as before the one two years ago, the right eye suffuses with water and she complains of right supraorbital pain. This is followed by pain in the back, darkness before the eyes, and loss of power, so she has to be carried; drowsy and sleepy all day; expression dull and stupid; pulse, 120 (sitting quietly); eneuresis on any slight cause, and regularly at night; pains in arm muscles and back of neck; very restless in sleep, with head thrown far back; "snores terribly"; hard of hearing since scarlatina. A recent fall has increased many of these symptoms. At school but two months this winter, as she was too restless. Is not able to find her way, because of trouble with vision. The right eye was found to be blind and sight in the left was very imperfect; good reaction from left eye to either pupil, but none to either from the right; left pupil the wider in the dark. On covering left eye, both turned to extreme right conjugation, and could not voluntarily be brought back. In April she was examined by Dr. Alleman, who wrote: "This may be from intracranial trouble. There is evidence of an old neuro-retinitis, which may as well be due to tumor as to Bright's." At the same time there was a speech impediment; when she could be made to say anything, this seemed nearest a lisp. Dr. Dudley said, with regard to this: "I think the imperfection in speech is due to partial paralysis of soft palate, rather than to a neurosis of the larynx." He also found a "moderate-sized adenoid in the naso-pharynx and hypertrophy of both tonsils." Tongue somewhat white; from some medication she is said to have recently passed many pin-worms.

She made little advance until put on anti-malarials; by the end of April she had, however, made good progress; hearing now excellent; eneuresis much better; pulse, 108 (sitting); speech better than ever before; no longer any trouble in walking; no weak at-

tacks nor supraorbital pain, though little change in vision. But May 8th she had a bad attack of fever, with suffusion of right eye, and vomiting, and became quite blind. There was again some increase in flesh, or, more probably, neuritic œdema. Bowels move often, but insufficiently; there is also frequent complaint of itching that changes about over the body.

Energetic treatment was again instituted, with satisfactory improvement in all respects except vision. When last seen, in August, she had recovered from everything except loss of sight; bright, active; no longer a swollen appearance; speech and hearing excellent; rarely eneuresis, and then only from a cold or some upset; splenic dulness now three inches across; general health better even than that of the other children; right eye still totally blind; the left has fair vision in a very limited area (merely a spot), not quite in the macula; even this is a decided improvement. Dr. J. S. Wood at this time found white atrophy of right optic nerve and a strong suggestion of the same condition in the left. From the age of the patient and the progress, although limited, that has already been made, I trust she will regain still further the use of the left eye at least.

2. Boy of nine years, referred to me by Dr. Law, April 30, 1892. "He has always been malarious"; otherwise well until two months ago, when he came from school complaining of occipital ache. This increased so that he would cry all night. Meanwhile the head became turned to the left (*i. e.*, it tipped to the left with the chin a trifle to the right; wry neck). A thorough course of quinine has somewhat relieved the neck and, to a slight degree, other symptoms. The headache has the last two weeks changed to supraorbital; it is not continuous; he may be two, three or four days free, then often suffers all day—though it may change rapidly; it often begins about 2 or 3 A.M.; no supraorbital or suboccipital tenderness. One morning about five weeks ago the left eye was noticed to be turned in, and this is now thought to be true of both eyes. At first there was double vision, but he no longer minds it. The left eye is said to be worse than at first; it is directed not only inwards, but a trifle upwards. On testing, the right eye fails to turn fully to the right, though in all other directions. Hence, as the left eye turns outwards only just to the median line, there is a paralysis of the left abducens and paresis of the right. Up to a couple of weeks ago, if lying on his back, he had difficulty in rising because of pain in the popliteal region. But this leg trouble, his appetite, wry neck and general condition have all improved somewhat; not so the headache and eyes.

Tongue much coated; it comes out straight, but in the act of retracting invariably turns to the right; some morning nausea, relieved by food; average grip, R., 24; L., 27 (is right-handed, though several in family are left); tendon reflexes all normal; turns and tips head in all directions with about equal freedom; he seems to hold head slightly tipped to the left, however—possibly an attempt to compensate for a weak eye muscle. Apparently feverish at times and Dr. Law has found some rise in temperature. Hands and feet now always cold; heart rather large; cardiac sounds clear; P. 104 and weak; pupils equal—both wide, even on illumination; right retina pale, granular, showing one whitish, radiating streak; the disc somewhat blurred and indefinite; vessels small and few; both discs pinkish, the left more blurred or choked, and shows several faint lines, with few vessels; mental condition said to be clear, still there is some stupor, listlessness, and a countenance devoid of expression; spleenic dulness five inches across. My own examination of a single sample of blood proved negative (Been taking quinine.)

He then was sent into the country and improved in all respects until June 19th, when he had an onset of fever lasting two days and leaving him totally blind. In this attack he had a series of convulsive movements in the left arm, throwing this and the shoulder forwards across the chest No loss of consciousness, and he was able to foretell the spasm each time. The optic discs now showed more blurring of outline, pinkishness and swelling. In either macular region transverse white bands, as though a rake had been dragged across; also an occasional irregular white spot in either fundus. Frequently troubled by itching, first in one part of body, then in another. More vigorous treatment was now instituted.

By July 29th, he had recovered in all respects except vision; right eye still blind; in left perception of light only; no weakness of any ocular muscle; pupils react from either eye; optic discs somewhat clearer; splenic dulness half an inch less; is said to be brighter than ever before in his life. There has been further subsequent improvement in vision, so that now (Nov.) he can distinguish objects and black from white.

Each of these two patients presented the appearance and symptoms of tumor of the brain. The suspicion that they might be something else arose from difficulty in localization; even an internal hydrocephalus could not satisfactorily account for the symptoms. A grouping of these seemed to point to systemic conditions,

and the histories suggested malaria as the most probable cause of this class. Their subsequent course has seemed to bear this out.

Probably of similar nature is the first case of Joseph W. Bauer ("Nervous Affections of Malarial Origin," *St. Louis Clinical Record*, 1879, Dec.), though termed by him "Diffuse Neuritis." It was in a woman of twenty-eight years, "double supraorbital neuritis extending down the left side of neck, shoulders and scapula"; bulging of eyes; vision at first dim, then quite lost. Cured.

Perhaps also Marchiafava's various cases of pernicious malarial infection, with symptoms of bulbar paralysis, belong here.

Multiple neuritis of the paraplegic type is well recognized. This does not appear to be a Brooklyn form. The two probable cases that I have seen both came from outside.

An undoubted case of general neuritis from malaria, in a boy of nine, is given by J. W. Bauer (*l. c.*, Case II; called by him "poliomyelitis anterior"; relative recovery). Kohler (1879) published a case of acute ataxia cured by quinine. Da Costa's case was also of the ataxic type, and he quotes another from M. H. Bell.

Singer (1887) gives details of a case of acute polyneuritis from East Indian malaria in a man of twenty-six.

Strachan, of Kingston, Jamaica, has an article on malarial multiple peripheral neuritis in Sajou's Annual (1888, i., 139–141). "One can almost pick out these cases by noting those patients who are sitting up in bed rubbing their feet and moaning and crying. In more advanced cases there is extreme muscular wasting. "It is the more chronic form of malarial poisoning which is followed by neuritis."

Cardoso Fonte has also considered this form ("Impaludismo larvado, paraplegia completa," *Brazil Med.*, 1889–90, ix.).

An ordinary case of this has recently been added by J. Fayrer (Indian Med. Gaz., 1892, xxvii., 11–13). It began in the lower extremities, but subsequently involved the upper as well. In his case, also, a fall may have had to do with the onset. It is especially noticeable that after partially recovering he had a slight attack of fever and ague, with great exacerbation of all symptoms.

Various other reports of this type are on record.

c Paralysis:—That this represents one feature in the neuritic cases follows of itself. This is, however, a secondary, slow form. Apart from these there are several published reports showing that transient forms occur. The intermittent has, perhaps, been longest known. A. D. Rockwell has described a daily-recurring intermittent hemiplegia in a man of middle life, and probably malarial (N. Y. Med. Jour., 1887, Sept.) Intermittent malarial paraplegias are

reviewed by Birdsall in Sajous' Annual (1889, ii., 110). Whittaker's case (1887) of hemiparesis and neuralgia was periodic and cured by quinine. Some of the several reported cases of recurring paralysis of the four extremities have been in persons where a strong suspicion of malarial influence was warranted, although an unknown autointoxication has also been assumed.

Besides these rare intermittent cases, occurring principally, if not wholly, in adults, there is also the continuous youthful form, to which I have recently devoted sufficient space (Am. Jour. Med. Sci., 1891, Dec.)

It is noticeable that all these paralyses directly malarial affect at least two extremities, and never, apparently, a single nerve, as does neuralgia or contracture. Whether this type depends upon an intoxication of the spinal centres, or is a purely peripheral effect (neuro-congestive, myalgic), or what the pathology is, does not appear to have been elucidated. That it is functional, rather than organic, and that it may be directly toxic, is probable. Or, as Leyden puts it in referring to Landry's paralysis, "The toxic agent first disturbs functions; the material degenerations follow"—such degeneration in malarial cases, however, not necessarily resulting if the poisonous influence be remedied promptly.

d Contractures:—These may be either limited, spasmodic—and then rapidly remediable—or more general atrophic, secondary to neuritis, and then of a chronic character. Wry-neck is the most common. A case of this in a girl of three-and-a-quarter years occurred in a family where the mother had suffered from brow-ague and a brother from the youthful form of paraplegia. She recovered on quinine. A small boy with this trouble is now recovering in like manner. In the cases from Drs. Law and Bartley, above given, torticollis was one symptom. A similar case and other data on this point may be found in Holt's article (N. Y. Med. Jour., 1883).

As to the other factors favoring the development of neural disturbances in these patients, there is, of course, in the severer forms often poor heredity, exposure, falls, etc. This dispostion is also greatly increased, according to Teissier ("Des troubles nerveux lointains consecutifs au paludism," *l. c.*), by functional liver troubles, and that to neurasthenia in particular by renal insufficiency. Age is an important element, as nearly all these patients are young persons. In some forms males make up the main contingent.

Most often occur neuralgias, then neuritis, occasionally the temporary paralyses, finally the rarer other troubles mentioned. Definite lesions of the central nervous system must be very un-

usual, despite the various forms of serious functional disturbance above cited.

In conclusion, it may be well again to remark that malaria is but one of the various causes of nervous diseases. There is a justifiable aversion to the over-frequent assumption of a malarial influence; still this need not blind us to present facts. A more careful scrutiny of our cases may show that at certain times and in certain places these nervous manifestations from malaria are far from uncommon.

THE MICRO-ORGANISMS FOUND IN THE BLOOD IN THE MALARIAL FEVERS.

BY ARTHUR CONKLIN BRUSH, M.D.,

Physician to the Department for Diseases of the Chest at the Brooklyn City Dispensary and for Nervous Diseases at the Brooklyn Central Dispensary.

Read before the Medical Society of the County of Kings, September 27, 1892.

Mr. President and Members:—Various observers have at different times during the past century described microörganisms which they claimed to have found in the bodies of patients suffering from the malarial fevers; but practically little was accomplished in this direction until Laveran in 1882 sent to the Academy of Medicine in Paris his masterly description of the organisms which are now believed to be the cause of the various conditions known as malarial.

The following descriptions of these organisms are the result of the study of 102 slides made from the blood of 57 patients, obtained from my clinic for general diseases at the Brooklyn City Dispensary during the summers of 1891 and '92.

The drawings, for the very beautiful photographs of which I am indebted to the kindness of Dr. Wilson, of the Hoagland Laboratory, are of course composite, for no one field or slide would show all these various forms.

The causes of error which have misled previous observers are neither few nor slight.

The ones which I have found most difficult to overcome are:

First. That there is no structure of the body which undergoes such rapid post-mortem changes as the blood, and these changes are so varied and misleading in appearance that they may easily give rise to grave errors in description. I myself have so often been misled by these, that I now reject all slides which show any

evidences of such changes. The two most important of these are the small vacuoles which form in the red blood cell and are not unlike in appearance to the non-pigmented intra-corpuscular bodies and the distorted forms assumed by the white blood cell closely resembling some forms of the free plasmodium.

A second source of error is that we do not see most of our cases at the beginning, and consequently we may see totally different forms which really represent nothing but the different stages of development of one organism.

A third is that we are often unable to get a series of slides from the same patient, either they do not come back when we want them or some of our slides will spoil, and thus important links in our chain are wanting.

A fourth is that we may not be dealing with but the different stages of development of one organism as claimed by Laveran, but of those of closely related members of the same family, the gregarinæ of which over eighty varieties are known.

A fifth is that the malarial organism is not the only one known to occur in the blood, and it is possible that some of the errors in description may have been due to the accidental occurrence of others.

The method of preparation of the slides is not difficult. The blood is obtained in the usual way by pricking the finger and may then be studied either fresh or stained and mounted.

My own experience has been similar to that of Laveran who obtained the best results with the fresh specimen. A film of coagulation forms around the edge of the cover glass leaving a central portion in which the plasmodium and blood cells will remain in good condition for several hours at the ordinary temperature of the room.

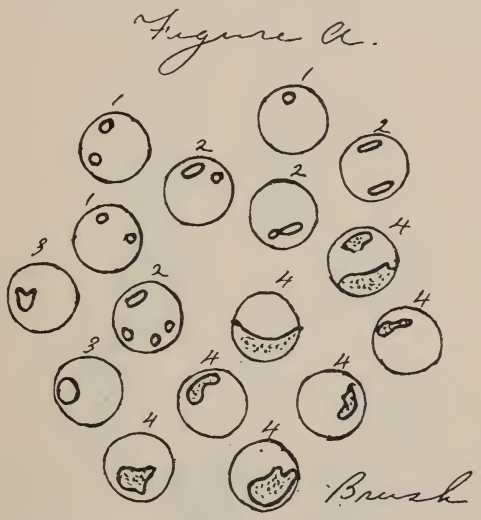
To stain the plasmodium we place a cover-glass covered by a dried film of the blood for a few moments in a solution obtained by mixing one part saturated solution of methyl-blue and two parts of a one per cent. eosine solution. This solution should be freshly made for each examination. The specimen may then be mounted in balsam.

In describing the various forms of the plasmodium malaria, we will first consider the forms found in the red blood cells, next the forms found free in the blood and lastly the changes which occur in the leucocytes.

The intra-corpuscular bodies may be divided into the non-pigmented and the pigmented. The non-pigmented bodies present three different forms.

1st. Small round or oval hyaline bodies varying from one to two or three in number situated within the body of the red blood cell towards its periphery. (*a*–1). 2d. Longer rod-shaped hyaline bodies usually single, situated like the preceding and often occurring in the same cell with them. (*a*–2). 3d. Larger round or oval hyaline bodies occupying a quarter or more of the cell and sometimes associated with the first two forms. (*a*–3). The pigmented intra-corpuscular bodies resemble the large round hyaline bodies in shape, structure and situation, but they are often larger in size, usually single and contain grains of fine pigment. (*a*–4).

All these forms in the fresh specimen possess active amœboid movements. In structure they appear to consist of a hyaline or



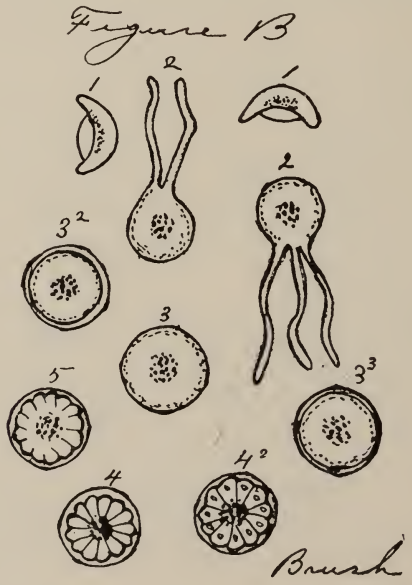
dimly granular matrix enclosed within a fine structureless membrane.

Osler also describes small round solid bodies resembling micrococci situated in vacuoles within the red blood cell. I have not seen these or if I have, I have mistaken them for the nucleated germs of the sporocyst found in the quartan form. It is impossible to draw these bodies as they really appear, for all pictures give the impression of their being on the surface of the cell, while in fact they lie within the body and covered by a film of its substance. In fact it is not easy to see them until the eye becomes trained, and it is often not until prolonged examination has been made that we are able to detect them.

The free forms present four varieties, the crescentic, the flagellated, the sporocysts, and the small pigmented. The crescents are

hyaline bodies crescentic in shape and a little greater in length than the diameter of a red blood cell. At their centre is found a collection of fine pigment grains. On the concave side there is often a delicate convex body or line extending from near the extremity of its two arms. (*b*–1). These crescents are able to change into oval bodies resembling the rosette form of the sporocyst. They are usually free in the plasma but have been described as occurring within both the red and white blood cells, but Laveran denies this.

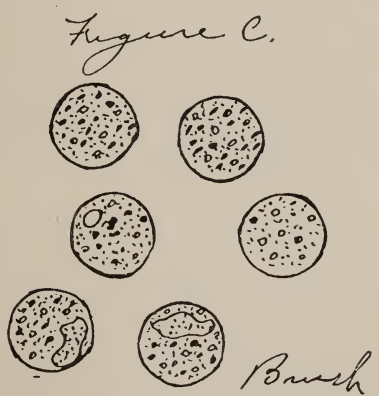
The flagellæ are pale hyaline bodies somewhat smaller than the red blood cell, round or oval in shape, with a dimly granular



border and a pigmented centre, resembling a small size of the rosette form of the sporocyst. Extending from this mass we may have one, two or three flagella. (*b*–2). The rosette form or sporocyst presents several different appearances depending upon in what stage of development we see it. One form occurs as round pale bodies, larger than the red blood cells with a finely pigmented border and a coarsely pigmented centre. Except that they are larger, they resemble the bodies of the flagellæ or ovoid forms of the crescents. They seem to consist of a hyaline membrane enclosing a dimly granular matrix. (*b*–3). They occur free in the blood (*b*–3[1]) or within the red blood cell, greatly distending it, but still surrounded by a rim of its substance, and its cell mem-

brane (b–3^2), or the cell membrane alone may be found enclosing the plasmodium. (b–3^3). Of the second form there are two varieties in both of which we find the hyaline matrix broken up into small round cysts resembling the small non-pigmented intra-corpuscular bodies. The cloudy border disappears, but the pigmented centre remains unchanged. The two varieties differ in the size, number and appearance of the cysts. In one form they are small, non-nucleated and from fifteen to twenty in number (b–4^1), in the other they are larger, nucleated and from nine to twelve in number. (b–4^2). Each of these varieties is peculiar to one form of intermittent fever.

We also find bodies midway between these two forms, they are large pale bodies with a pigmented centre, but their borders are indented at regular intervals by fine lines or segmentations ex-



tending towards the centre. (b–5). The fourth of the free forms occur as small rounded pigmented bodies about the fourth of a red blood cell in size, resembling the pigmented intra-corpuscular bodies. (b–6). The white blood cells usually contain variously sized pigmented grains, and occasionally the pigmented, and non-pigmented intra-corpuscular bodies and crescents. They are often increased in number.

These various forms are believed to be only the different stages in development of one organism, a member of the gregarinæ family; and a development similar to that which we now know to occur in the blood has been known to occur outside of the body, for over half a century; many of these forms and their development being described as far back as 1839.

The earliest form is that of the small non-pigmented intra-corpuscular body, of which there are usually more than one in the same cell. (a–4^1). These have the same structure as the gregarinæ

found outside the body; that is of a hyaline membrane enclosing a dimly granular protoplasm. Outside of the body it is known that when two of these bodies come in contact they may become fused into one mass, which increases in size, undergoes segmentation and finally ruptures, setting free cysts which are identical with their parents. Before segmentation occurs flagella are often found on their surface. Whether this really is the process which occurs in the red blood cell we do not know, but at the next stage we find them increased in size and usually but one in a cell. (*a*–2 and 3). As these bodies grow at the expense of the cell substance, they become pigmented at their centres, and we have the pigmented intracorpuscular bodies found. (*a*–4). Finally they become so large that they occupy not only all of the cell body but distend it, and we have the rosette form. (*b*–3[1]). They may then become indentated in outline, undergo segmentation and form the sporocyst (*b*–4[1],4[2]) which finally ruptures setting free a new crop of gregarinæ or before segmentation occurs these bodies may develop flagella just as they do outside of the body. The crescents (*b*–1) too, appear to be but a temporary transformation which occurs in the rosette form, for Laveran has observed them first to become oval in shape and finally true rosettes.

The relationship between the duration of the fever and these various forms of development is quite marked. The earliest form which we find in the blood is the non-pigmented intra-cellular form. By the end of two to four days these have developed into sporocysts, and a short time before the chill from one-half to two hours, these rupture. In the quotidian and tertian types the spores are small, from fifteen to twenty in number and non-nucleated, while in the quartan type they are larger, from nine to twelve in number and nucleated.

If the disease continues any length of time this cycle of development is lost and we have a constant development and rupture of these sporocysts; now also the flagella and crescents appear and become still more common in the chronic forms. Now what are the proofs that this is the true parasite of the malarial fevers.

1. Independent observers working in Europe, Asia, America and Australia have detected it in the blood of malarial patients.

2. Their descriptions of the parasite are, with slight exceptions, identical.

3. They have failed to find it in any other disease.

4. Inoculation with blood containing the parasite reproduces the disease in man.

5. Experimental physiology also adds its evidence. Laveran sent some pigeons whose blood was known to be free from any organisms, from Paris to Rome. They were exposed for one night in the marshes. The next day these organisms were detected in their nasal cavities, and on the third in the blood. Nine days after they developed a rise of temperature of one-and-one-half Cent., refused food and rapidly lost weight.

The natural home of the gregarina family is damp soil. Here we find them free or as parasites to the plants whose coloring matter they may absorb as they do that of the blood. They also occur in the respiratory and intestinal tracts and blood of insects, fish, reptiles, birds and animals, especially those inhabiting regions known to be malarial, while the same species in non-malarial are usually free. From a very large number of observations made in the last few years it is quite certain that they may enter the body either through the respiratory or intestinal tract or by direct inoculation by the bite of the mosquito.

As a proof that the drinking water may be the source of infection, it is known that in Italy families using the water of certain springs are attacked while their neighbors with a different water supply escape. The gastric juice seems to have a destructive action upon these parasites, for it was noticed in one of the French regiments, where a single exposure was made by using the water of a spring in a malarial locality, that the half of the men who drank before eating were attacked while the other half who used it after escaped.

From a very large number of observations made among the British in India, and the French in Africa, where the fever has followed a brief exposure, the period of incubation, that is the period required for the development of a sufficient number of these organisms to produce symptoms, is from six to twelve days, the average being nine days.

Malarial outbreaks have been observed to follow the plowing of land for the first time and the sub-soil plowing of lands from which the malarial fevers have disappeared. The explanation of both these facts is the same. By plowing we expose the lower depths of the soil, and by doing so we expose a large amount of the products of vegetable decomposition which have been carried down by the rain water, to a depth where further changes are necessarily slow, and therefore, the sub-soils become store-houses for such products.

By plowing we suddenly place them on the surface where the gregarinæ can feed upon them, and this increased food supply

would naturally be followed by an increased multiplication of these organisms. The symptoms of the malarial fevers are probably due to systemic poisoning arising from the ptomaines produced in the blood by the action of the gregarinæ. As has already been stated, we know that about a half an hour before a paroxsysm occurs, rupture of a large number of sporocysts takes place, resulting in the invasion of a large number of red corpuscles, and this would naturally be followed by a rapid formation of these toxalbumins.

The reason for the periodic rupture of these sporocysts is, I believe, as yet unknown and must remain so until we learn more of the life history of these organisms, all attempts to cultivate these gregarinæ have failed, and for this reason no attempt has been made to isolate the products produced by them.

The substance destroyed is also as yet unknown, but it has been pointed out as far back as 1866 that the normal fluorescence of the blood is diminished one-half in the malarial fevers, and this property is supposed to reside in the hæmoglobin. These ptomaines, like all the products of organic life, are inimical to the organisms which produce them, and this explains the fact that if we remove the patient from the source of infection the disease will disappear of itself, and even if he remains in a place where he constantly suffers reinfection that the symptoms are after a time modified and we have the chronic and irregular forms. It also seems as if this poison, like that of diphtheria, may remain in the system and produce symptoms after the organism has disappeared. This poison, however, although it tends to destroy the organism which produced it, does not seem to leave behind it those nutritive changes which the poison produced by some organisms do, which produce immunity against their further action. Either from the long continued action of this poison for thousands of years or from some other peculiarity in the chemical composition of their blood, the negro race possesses an immunity against the malarial fevers.

It is also a well-established fact that the immunity acquired by certain animals against the attacks of certain organisms can be transferred to susceptible animals by injecting them with the blood serum of the former, and it would be an interesting experiment to see if this could be done in the white man by injecting with the blood serum of the pure negro.

The action of quinine upon these organisms is the most beautiful demonstration of the powers of drugs that I know of. One or two doses are often all that is required to cause the entire disappearance of the intra-corpuscular bodies. The free forms, however, resist for some time, and are often to be found after all

symptoms have disappeared and the patient is considered cured, and this fact is certainly an indication for the continuance in the use of the drug for some time after all manifestations of the disease have ceased, for, as long as they remain, there is the danger that they will undergo segmentation and thus give rise to a fresh crop of the intra-corpuscular organisms.

THE TREATMENT OF MALARIA IN BROOKLYN.

BY GEORGE E. LAW, M.D.

Read before the Medical Society of the County of Kings, September 27, 1892.

Whether it is better to attempt to arrest an intermittent malarial fever, or to allow it to run its natural course and burn up the impurities of the blood, is a question which was much agitated eighty-five years ago. When we call to mind the standard treatment at that time, bleeding, emetics and sometimes purgatives, followed in each interval by two ounces of crude Peruvian bark, it certainly would not surprise us to know that the patient sometimes preferred the purifying process of the disease.

The separation of the alkaloids by Gomez, of Lisbon, in 1810, and the isolation of quinine in 1820, by Pelletier and Cavantou, of France, gave to the world a far more satisfactory remedial agent, the value of which was promptly recognized, and although the physicians of the third decade of this century were innocent of the fact that each dose of the new drug was proving fatal to millions of micro-organisms, they attained the practical results that we do now.

While there is, I am persuaded, less of practical interest to most of you now than formerly in the consideration of intermittents, it is still a vital question with those of us who practice in the developing sections of the city.

Though there may be some difference of opinion as to dose, time and form of giving, I am quite sure that there is no question in the mind of any of us that in the treatment of intermittent malarial fever, of whatever type, quinine stands unrivalled.

The treatment of the paroxysm should be palliative. An emetic if the chill occur soon after eating; a hot foot-bath and warm blankets for the first stage, and sponging with alcohol and water for the fever, will usually suffice.

Should nervous symptoms be marked, the hypodermatic injection of a quarter of a grain of morphia will afford relief. Trinitrin given early in the chill is said to abort, or greatly modify it. The consequent masking of the patient's true condition, seems to me a sufficient, though not the only reason for avoiding, so far as possible, the use of antipyretics, both in this and in other forms of malarial fever.

The paroxysm being over, the time for action has arrived. In my own hands the following plan of treatment has been satisfactory;—ten to fifteen grains of sulphate of quinine, four to six hours in advance of the expected chill, once a day, until the time of recurrence has been safely passed, then, for a week, ten grains before the time of possible return, followed by the same dose once a week for three or four weeks.

Dr. Bartley informs me that it is his custom in such cases to advise his patient to go to bed an hour before the expected outbreak, and cover the body warmly. Where this advice has been followed, and a proper dose of quinine taken, he has never known a chill to occur. It is a new point to me, and I believe a valuable one.

While in urgent cases we are not justified in employing quinine in a form less certain of absorption than the solution, I have usually found pills and capsules satisfactory, but am accustomed to direct that if they are used, the coating be pricked in several places with a needle to hasten solution. If the additional precaution of drinking a glass of lemonade or water is taken, failures will not be frequent.

With children the quinine chocolates are usually satisfactory, as are some of the so-called "tasteless mixtures," and the use of the drug in double dose by the rectum, in solution or in suppositories. The oleate of quinine, so much used a few years ago, is, I believe, falling into deserved disfavor.

In the most urgent cases, both in children and adults, the hypodermatic method is clearly indicated.

In the treatment of the remittent type of the disease, there is more chance for difference of opinion. I shall, as in duty bound, lay down a plan for the management of this, as well as of the still graver forms of malaria, hoping that some wiser head may suggest a better plan for my own adoption in practice.

I believe that in the type of disease under consideration, continued small doses of quinine are of slight utility, and that continued large ones are to be condemned as harmful.

It seems to me good practice to give, as soon as the nature of the case is manifest, twenty, thirty, or even forty grains of quinine at a single dose, or in divided doses, so that the whole amount is taken within twelve hours. Twenty grains may be given on each of the two following days. If the fever is not then broken, it seems to me useless to continue quinine. This is a good time to stop and make sure of one's bearings. To renew the search for some inflammatory lesion and to reconsider the possibility of typhoid, at the same time the use of arsenic, eucalyptus, or compound tincture of iodine, is proper, quite likely useful, and in no way objectionable. If, after a few days' intermission, we are satisfied that we are dealing with an uncomplicated remittent, repetition of the full doses of quinine would seem to me to be in order. The fever being once broken, prevention of its return is the same as of an intermittent.

In the treatment of the irregular, and in this city more common malarial manifestations, the resources of the physician are taxed to the utmost. Skill in diagnosis is of first importance. A careful search for inflammatory or tubercular trouble should precede, and frequent testing of the temperature should accompany treatment. In cases still doubtful, the microscope is our hope.

Here a host of remedies appear. Quinine, while by no means alone, as in the typical forms, easily first. Of those that follow, perhaps arsenic and iodine are most entitled to respect.

The iodide of arsenic, and Donovan's solution are of great value. The ferro-cyanide of iron is much used by the older Long Island physicians, and is much valued by those who have learned its worth. It may be given in two to five-grain doses, and is most conveniently administered in gelatine-coated pills which are prepared by some of the manufacturing chemists.

To look after the digestive and excretory organs is not less important than specific treatment. A few small doses of calomel are often of service, though I doubt if the routine use of the drug as a preparation for other treatment prevails as it once did. The need for iron is often plainly manifest in the evident poverty of blood. The Turkish bath by stimulating functional activity is in many cases a valuable adjuvant.

Certain combinations of drugs seem to possess a special value. In cases accompanied with neuralgia, Dr. Browning obtains satisfactory results from the following prescription:

Aconitia (Duquesnil's) gr. $\frac{1}{200}$-$\frac{1}{400}$. Iodide of arsenic gr. $\frac{1}{40}$-$\frac{1}{100}$ Muriate of quinine, 4 to 10 grs. Give two or three times a day.

A prescription suggested to me by Dr. Benjamin F. Westbrook has proved so valuable that I venture to mention it, as well as to speak of the case in which I first saw its usefulness.

The patient, Mrs. W., had for at least two weeks, and I believe much longer, a rise of temperature each day of one or two degrees. Ten-grain doses of quinine, twice a day for several days did not influence it. Dr. Westbrook saw the case with me, and suggested a twenty-five-grain dose of quinine, followed by five grains night and morning, and the use of the following prescription:

℞. Liq. Acidi Arseniosi ℥i
Quiniæ Muriatis..... ℈j
Tr. Cinchonæ Co..... ℥vi
M. Sig. Two teaspoonfuls in water after each meal.

I saw the patient each day for a week and tried the temperature at various times of day, but no elevation afterward occurred. In many cases since it has proved satisfactory, and with me rather takes the place of Warburg's tincture.

Whatever form malaria may assume, no one thing can be of so much importance as the removal of the patient to an uncontaminated locality. One case well illustrates this point.

Mrs. P. has been my patient for seven years past. When I first knew her she was having clear malarial attacks three or four times a year, and at times severe neuralgic headaches. These were easily subdued with quinine, but, with relief, treatment, as a rule, was promptly dropped. Six years ago I prevailed upon her to go to the Catskills. She returned in six weeks. much improved, and had no return of trouble for six months, when there was another malarial outbreak. Each year since she has been away about three months, and has had no return of the old trouble.

In other cases the results sometimes seem quite out of proportion to the change made.

Three years ago Mrs. H. came to me suffering with chronic malaria, having a slight daily rise of temperature and an annoying cough, so persistent as to suggest incipient phthisis. After three or four weeks treatment with unsatisfactory results, she consented to go the mountains, where she had previously derived great benefit. Two months later she called at my office the picture of good health, and after I had expressed myself on the advantages of mountain air, she informed me that she had passed the two months in Cypress Hills, about one mile from her own home. She

had taken but little medicine, and since then has required none for the old disease.

As to prophylaxis, the history of Brooklyn is instructive. It is well known that certain sections once malarious, have become healthful, owing to drainage of stagnant ponds, proper sewerage, and the covering of the soil by buildings, by flagging, paving and sodding.

On the other hand, it is noticeable that most cases now develop along the line of streets in which pavements are torn up for various purposes. It is certain that much of malaria could be prevented by avoiding so far as practicable, disturbance of the street surfaces and by prompt restoration after needed work has been completed. This much, together with a pure water supply and clean streets we have a right to expect from the city government.

All that we can ask of individuals, is a compliance with the general rules which tend to the development of good health.

THE RELATION OF WATER TO PALUDAL POISONING.

BY E. H. BARTLEY, M.D.,

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Read before the Medical Society of the County of Kings, September 17, 1892.

In the literature of malaria very little has been said until very recent times as to the possibility of contracting the disease through drinking water. It has been stated, and it needs no discussion, that malaria can be contracted by exposure to marshes or to the air above marshes, especially at night. Some have tried to account for this by attributing it to the dampness or fog or low temperature of the air over swamp lands at night. In support of one of these ideas it is claimed that merely by wearing extra warm clothing at night travelers escape malarial infection, or at least escape the outward manifestations or the chill. That "chills and fever" is usually contracted through the air in some way has not been called in question. Nor is swamp air, or foggy weather, or cold nights and hot days necessary to the development of malarial fever. As is well known, an imperfectly drained sub-soil at any altitude is sufficient to produce it. Since the discovery of what has been thought

to be the cause of the disease in the blood of man and lower animals, the attention naturally turns to the origin of these organisms and their method of propagation and roads of absorption by man. The air of swamps has been examined, animals, especially pigeons, have been exposed to the air of malarial regions, and their blood has been seen to become charged with this plasmodium. It has been observed, however, that persons who drink the water of stagnant ponds in malarial regions suffer more than those who do not drink them. It is well known that the poison of cholera, typhoid, diphtheria, scarlatina, measles, and epidemic dysentery may be conveyed in milk or water. These facts, together with the fact that the home of the paludal poison is in and about swamp lands, would lead us to suppose that whatever the poison may be, if a poison at all, it might be found in swamp waters. If it be found in swamp waters, or in the water saturating imperfectly drained soils, can it pass through the stomach and enter the circulation by this path? It will not be controverted that epidemic dysentery has often, and indeed usually, its causes in malarial poisoning. In the late civil war this fact was well understood, and quinine was largely used as a preventive as well as a curative drug. It was also clearly demonstrated that the character of the drinking water was largely concerned in the production of the dysentery that so seriously affected our soldiers.

Tiedemann and Gartner in their work, "Untersuchung des Wassers," p. 424, say that malaria in some cases is due to drinking water. They quote from Boudin an instance in which a warship containing 229 healthy men took on board some casks of swamp water. On the passage from Bona to Marseilles ninety-eight men sickened from malaria and had to be put in the hospital at Marseilles. Those who did not drink of this water escaped the disease.

Dr. Fyffe, Dept. Surg. Gen. English Army, in Bristol Medico-Chirurgical Journal, 1883, p. 143, says: "The evidence of the communicability of the poison through potable water is to say the least very strong."

In a paper in a recent number of the New Orleans Medical and Surgical Journal, Dr. R. Waggener cites the following cases which came under his observation: "The villages of Warrington and Woolsey in Florida had been considered healthy places up to 1872. After that they became very malarious. Previous to that date almost the whole water supply had been from a spring of pure water. About 1872 driven wells became popular, as water could be had at a depth of a few feet, and most of the residents had their own wells. From this time malaria became very prevalent, and it

is believed from the change in the water supply." The same gentleman cites another case, as follows: "In January 1886 a company of forty healthy marines were sent to the Navy Yard at Pensacola, Fla. During their first year frequent attacks of malaria began to show themselves among these men, which increased in number during the second year, and during the third year the disease became so prevalent that before August twenty-five of the party were in the hospital at one time. During this year they were so broken down that they were all sent to Norfolk, Va. where they all recovered. These marines drank the water from a driven well at the yard. The officers and their families drank only from a cistern, and no case of malaria appeared among them, proving that the wells were probably the cause of the sickness among the marines."

In 1875 the Naval Hospital at Pensacola was rebuilt. It proved to be a very unhealthy place, malarial diseases being very commonly contracted by patients and all others who came there. This continued until 1890. At this time there was a change in the water supply. A cistern was constructed and the use of well-water from the driven wells was abandoned, with the cessation of malarial attacks. The soil at the location of the hospital is composed of a sandy top with a swampy marl underneath. This peaty soil contains organic matter and in some way produced these diseases." (Sanitarian, August, 1892.)

Without pretending to give a complete or extended review of the literature upon the subject, the above will give an idea of the character of the evidence which has led to the conclusion that water may carry the poison of the disease, as expressed by Laveran and others.

In the report of the Marine Hospital service for 1890, p. 12, signed by Surgeon Hamilton, he says: "The experience of the past year confirms the previous statement that malarial diseases are contracted through the medium of food and drinking water."

Laveran reaches the following conclusions upon this subject: "There have been observed cases in which, in the same locality, persons living in identical conditions, but using drinking waters from different sources, the one group being attacked in a large proportion, while the other group of persons are scarcely affected at all.

"2d. In certain otherwise unhealthy localities the paludal fevers have been seen to disappear by supplying pure drinking water instead of the previously used stagnant waters.

"3d. In localities otherwise healthy one can contract intermittent fever by drinking water from an unhealthy locality. (See case

above on ship-board.) The persons most affected are those who drink the water most freely.

"4th. Travelers in malarial countries have found that on boiling their drinking water they escape the disease in a large proportion of cases."

I will add that filtration will answer the same purpose as boiling if it be carefully done. Pocket filters have been tried in some of the English garrisons in Africa with the result of greatly lessening the number of cases of malarial fevers. I have recently demonstrated this fact with the water supply of this city. It is well known that some of the lower animals, notably pigeons, are subject to malarial poisoning. With the assistance of Dr. A. C. Brush the following experiment was performed: A Chamberlain filter was mounted so that a constant slow stream of water from the city supply was allowed to filter through it for forty-eight hours, collecting the residue on its inner side. It was roughly estimated that about three gallons of water passed through the filter. The filter was washed out with a half ounce of distilled water, and an ordinary hypodermic syringeful of this wash-water, freed from the coarser particles of the sediment by settling for a few minutes, was injected under the skin of two out of three healthy pigeons, on Monday, September 19th. The following day, September 20th, the injection was repeated. Previous to the injections the blood of the pigeons was examined by Dr. Brush and myself and found to be normal. No abscesses formed in any of the pigeons, and they continued in apparent good health and spirits until on the 24th, when one of those which received the injections was seen to be quiet, somewhat disposed to droop, refused to eat, and felt warm to the hand. The temperature of this bird at four P M. was 105 2-5° F. An examination of the blood of this pigeon showed very numerous organisms such as are seen in the blood of persons suffering with malaria at or near the time of the chill. The other bird that had received the injections appeared brighter, and ate its food. It did not, however, act as well as usual, and felt feverish. Its temperature was 105 4–5° F. The examination of its blood showed rosettes, ciliated free bodies, and some intra-cellular bodies. There were fewer of the organisms in this blood than in that of the first one. The third bird did not receive any injection, but occupied the same cage with the others. It appeared well, and its temperature was found to be 103° F. The examination of the blood gave negative results. On the 25th all the pigeons seemed equally well, but the temperatures were not taken. On the 26th the two pigeons seemed somewhat ill again. Temperatures 106° F. and 105½° F.

The experiment was repeated with eight other pigeons on October 5th and 6th, with the following results :

The pigeons numbered one, two, four, six, seven and eight received in the breast an ordinary hypodermic syringeful of the water residue on the 5th, and another on the 6th. No. 5 was one of the first experiment, not reinjected. Those numbered four and nine were left as control birds. Dr. Brush assisted in the microscopic examination of the blood of all the birds both before and after the injections.

Nothing abnormal was found in the blood of any of them at the first examination.

The following notes were made at the time of the examination on the 10th of October, the fifth day of the experiment.

Unfortunately I was prevented from following up the observations of the temperatures after this day. None of the pigeons died, and although they appeared somewhat sick, they all gradually recovered their usual activity after a few days. No. 1. Examination of the blood, taken from a cleansed spot under the wing, shows a few pigmented intra-corpuscular bodies and free rosettes. Pigeon looks well. Temperature 105 3–5° F. No. 2. Shows a large number of non-pigmented and pigmented intra-corpuscular bodies, and a few free forms. Bird seems sick. Temperature 106 3–5° F. No. 3. No abnormal bodies to be found. Bird seems well. Temperature 104° F. No. 4. A few free plasmodia. A few infected blood corpuscles. Bird seems sick. Temperature 106 2–5° F. No. 5. This pigeon seemed sick. It was one of the first experimented upon, and appears very anæmic. A few crescents and intra-corpuscular pigmented bodies. Temperature 107 1–5° F. No. 6. Pigeon looks sick. Temperature 104 2–5° F. A few flagellated free bodies and intra-corpuscular bodies. No. 7. Pigeon looks well. Examination failed to reveal any organisms. Temperature 105 2–5°. No. 8. A few free bodies. Seems to be sick. Temperature 104 1–2° F. No. 9. Bird seems well. Temperature 104 1–2° F. Shows no organisms.

Dr. Brush was ignorant as to which birds had received the injections, but was able to determine that point without hesitancy by the examination of the blood, except in No. 7, in which the examination failed to show the organisms.

So far as these experiments go, they seem to demonstrate that the malarial organisms exist in Brooklyn water as it reaches the consumers. They also demonstrate the fact that a good filter can separate the poison, and it may be concentrated in this manner. That the malarial organism may live for some time in drinking

waters, and that in iron service pipes. That these organisms can be cultivated in the blood of living pigeons, when subcutaneously injected. That the water supplied to Brooklyn contains the organisms or their antecedents. Two practical questions here present themselves:

1st. Why do not more people suffer with malaria?

2d. Can anything be done to remove the organisms or their antecedents from our water supply?

In answer to the first question it may be said that healthy gastric juice of normal acidity will destroy these organisms on their way through the stomach. It will therefore require repeated doses and a lessened secretion of acid in the stomach to allow enough to pass in order to produce fever. Again, the human system can master, so to speak, a few of these organisms, while large quantities of them may produce their specific effect. Laveran mentions a case where one detachment of soldiers partook of a certain well before dinner, while another detachment drank of the same water after a hearty meal. A large number of the first group of men became malarial, while of the second none contracted the fever. He explains this incident by the fact that the gastric juice of an empty stomach is neutral or alkaline in reaction, while in the second the gastric juice was acid and destroyed the organisms.

It is, then, disordered stomachs that would allow the poison to enter the system in this way. May not this fact partially explain why a large proportion of those who suffer with malaria suffer also with dyspeptic symptoms?

In reply to the second question we may remark that the gregarina, the family that these organisms belong to, inhabit stagnant waters as parasites of water plants. They seem also to have their habitat in the soil water of low, wet places. It would seem also that decomposing vegetable matter in peaty soils, or under stagnant waters or at considerable depths from the surface of almost all soils, may have something to do with the production of malaria. Filtration for so large a city, accompanied with chemical treatment, would be efficient, but impracticable. Cleansing the ponds from which the water is taken would be practical, and of undoubted benefit. Draining the soil about such ponds by tiling or ditching ought to be of value. This discussion opens up a wide field for investigation and experiment, which ought to confirm or disprove the above conclusions.

DISCUSSION.

Dr. J. D. Sullivan:—I must express my thanks to the Society for the honor of opening the discussion, and I think I but voice the sentiment of those present when I say that I feel very grateful to those gentlemen who have taken so much time and trouble to instruct us this evening. It has been a very valuable discussion of a very common subject. The subject is so extensive that to make a formal discussion of it would take more time than is permitted, so I will simply add a few thoughts that have occurred to me.

In regard to the first paper, I feel positive that we do not have as much malaria in my section of Brooklyn as we did twenty years ago, although that impression may be due to our present more intelligent comprehension of the disease, and more careful diagnosis, and our ability to distinguish it from other affections which are so closely allied to it. I remember the time when a large proportion of the prevailing maladies were so tainted with malaria that the primary disease was frequently masked or overlooked, especially in the beginning of the attack.

Granting that popular impressions and faulty diagnosis gave undue prominence to malarial symptoms in those days, I still believe that we have less of the miasm or general malarial poison in Brooklyn now than we had years ago. I presume this comparative immunity is due to better drainage, the covering of the soil with pavements, and better hygienic conditions. The statement was made that pregnant women were more liable to malaria. I think that is true. I presume that they have less resisting power than when not in that condition. Any condition which would depress the general powers of the system would make that person more liable to malarial infection.

In regard to Dr. Browning's paper, I question whether those manifestations were due directly to the malaria, or to the mal-nutrition of the nerves and tissues of the body caused by the malarial toxæmia. We all know that malaria disturbs digestion and normal nutrition and thereby induces a deranged or diseased condition of the nerves as well as of other organs.

The point is whether those nervous disorders are due directly to the mal-nutrition—the poorly nourished condition of the system, or to the malarial poison. I would do more to improve the nutrition of the patients than to crowd them with quinia, and I think I have seen better results from that treatment in these nervous affections, than from over-medication.

The paper which Dr. Brush presented, I am sure has edified us all, and we can realize how the blood corpuscle is disintegrated by

these organisms, and how we get such toxæmia and great array of symptoms as we see produced by them. I question whether this disintegration is due directly to the pathogenic germs or is a result of the pathogenic action of these germs on the blood cells. It is more likely due, as Dr. Browning has said, to the ptomaines, and no doubt in diseases of the kind he mentioned, in the majority of cases the damage is caused by the ptomaines rather than directly by the germs.

There is one point that I did not hear discussed in these papers. Do these micro-organisms reproduce themselves in the system? I believe it is stated that they do not reproduce themselves, and that by good hygiene the disease itself will die out; that the ptomaines will destroy the germs, and proper elimination of the débris from the system would cure the disease. I am inclined to think that improving the general nutrition and removal from a malarial district would do that, as the disease does not reproduce itself in the system, like some other diseases.

The points made by Dr. Bartley I am sure are very instructive. The only wonder is we do not have more malaria than we do, if our Ridgewood water is such as might be presumed from that experiment, but undoubtedly the gastric juice is a strong element in destroying these germs. We would, however, better either drink our water after meals, or else have it boiled.

In regard to the treatment, Dr. Law covered the subject very well, but I could not say that I harmonize with him entirely. I have never given such large doses of quinine as he has. I have not given over five grains at a dose for a long time. I find better results by giving eighteen or twenty grains in twenty-four hours, divided into six or eight doses, rather than two or three. I rarely give it unless combined with some eliminative. My favorite is rhubarb, one-quarter to one-half grain of the extract in every pill or capsule. That does not act upon the bowels but upon the secretions, particularly on that of the liver, and it has appeared to me that a small dose of quinine associated with a small dose of rhubarb will do more good than twice the quantity of quinine without the rhubarb. Whether rhubarb contains any curative powers I do not know, but it assists assimilation. I frequently begin by giving one dose of calomel, or what is better, two or three small doses. I am very cautious with quinine in pregnant women as I think it produces an oxytocic effect and is apt to bring on abortion. I use rhubarb, muriatic acid or some of the mineral acids. As soon as they begin to recover I give them a prescription containing muriatic acid to be taken after each meal, and continue it until health is

restored. If the fever is low and remittent I give it right through. It is my favorite in typhoid fever and is beneficial in malarial fevers also. It assists digestion, assimilation and elimination. I always pay special attention to the alimentary tract, shutting off all indigestible articles of diet, and putting the patient upon simple, easily digested food. I think there is a torpid condition of the liver in malarial subjects and, until the system is put into good physiological condition, they recover slowly.

Dr. Van Cott :—Only one or two points admit of remarks, after so thorough a discussion of the etiology, pathology and symptomatology of malaria as has already been heard. As to the etiological factor in malaria, Dr. Brush has called attention to the various so-called phases of growth of the plasmodium and also that the parasite seems different in the different forms of malarial fever. Camillo Golgi has claimed to have observed that in tertian malaria the plasmodium completes its development in two days, while in the quartana three days elapse before full development. Again he says the amœba of the tertiana are more motile than those of the quartana, and that the hæmoglobin destruction in the former is greater than in the latter.

Morphological differences he also claims exist. Much error is supposed to have been made in differentiating the various forms of plasmodia; and there is doubt still on many of these points. It is probable regarding the malarial organism that in certain forms of the disease the crop is much stronger than in others, and that this fact has much to do with the severity and time of recurrence of the chill.

As a diagnostic aid the plasmodium is becoming more and more favorably regarded, especially in Germany. Hertl and Van Nooden reported in 1891 two cases illustrating this point : one sent to them as typical malaria failed to show the organism in the blood, and while quinia controlled the fever, malaria was excluded because of the negative blood findings. This case eventually died of phthisis. The other gave typical findings of plasmodia in the blood before the characteristic temperature curve developed.

Phelin and Rosin, also Rosenbach, have verified over and again these observations. As to the exact nature of the parasite we do not yet know certainly. The small, red rodlike bodies that are seen in many of the plasmodia are claimed by some to be the actual organism, the remaining protoplasm being simply an altered blood corpuscle, the rods having imbibed its hæmoglobin. Cultivation artificially of the organism has thus far failed, just as the efforts to discover and cultivate the organism of epidemic dysentery failed,

until recently some one succeeded in producing pure cultures in hay infusions. These were injected into the rectum of cats, the ani stitched to hold the injection, and after a time, the sutures being cut, typical dysentery had developed.

As to the very scientific paper of Dr. Browning, my own belief is that not all the neuroses in chronic malaria are due directly to the plasmodium, or to the toxic effects they produce, for it is a well-known fact that after repeated malarial infection enlargement of certain glands obtains the spleen being one favorite site, the liver another, and vascular lesions also are often found. Actual hyperplasiæ and pigmentation are at hand, and because of these changes, and the profound nutrition disturbances they induce, I believe the various neuroses occur. It is doubtful to me if the term chronic malaria applies as a cause of these neuroses, rather chronic hyperplasiæ, pigmentation and the nutrition disturbances depending on these.

Dr. Bartley's experiments come more nearly to the point than anything that I have yet seen in the literature of the subject. It is scientific and ingenious to endeavor to obtain the plasmodium by filtration of miasmatic water, and the Doctor's chemical ingenuity ought to discover some chemical substance in which we can make pure cultures of the plasmodium.

Dr. Homer L. Bartlett:—I do not know that I can add anything to what has already been said, except to give you a brief history of malaria in Flatbush, and the adjacent towns. When I settled in Flatbush, thirty-seven years ago, we had regularly, every fall and spring, intermittent and remittent fever, in certain localities. Upon investigation I found there were three sources of malarial contamination, viz., stagnant pools, goose-ponds and the deposit of large quantities of decaying vegetables in the cellars of farmers.

The stagnant pools were scattered along the brow of Prospect Hill, from where Prospect Park now is, on through Greenwood Cemetery to Fort Hamilton. Underlying this part of the Island is a substratum of clay, which prevented the drainage of the rain-water, and hence the accumulation of stagnant water, which became a prolific source of malaria. These pools, now, no longer exist, all of them, so far as I know, having been either drained or filled up.

Formerly most of our Dutch farmers thought it necessary to have a "goose pond" in their back yard. These became dry in summer, thus exposing a large amount of festering matter to the direct rays of the sun. The children of the family often played around these ponds, and thus contracted malaria. When this danger was

fully appreciated they were at once done away with. Forty years ago most of the Long Island farmers were in the habit of storing large quantities of vegetables in their cellars, which decaying, filled the house with unhealthy gases emanating therefrom. Since then they have become wiser, and leave their vegetables in pits, or deposit them in cellars, under barns or outhouses. With the elimination of those three causes intermittent and remittent fever have become exceedingly rare in Flatbush. In fact, I cannot recall a typical case of intermittent fever in my practice within the last ten years.

Added to all this, the introduction of water—Flatbush is particularly fortunate in her water supply,—and the construction of sewers have made malarial fever almost a thing of the past Of one thing I am certain, as my books will show, in the first few years of my practice I did more business in July and August than I did in any other *four* months of the year, and the principal trouble was malarial and diseases of the digestive organs incident to malaria. Now the physicians of Flatbush have little do in the summer months.

During the construction of Prospect Park we had a curious illustration of how malarial fever may be produced, and which confirms what Dr. Bartley has just said in his paper.

The architect of the park decreed that it should be entirely surrounded by high embankments, on which trees should be planted, so as to shut out all external objects. To make these trees grow luxuriantly he caused these embankments to be enriched by a foot and a half of muck from an adjoining swamp. The result was that almost every family residing along the park border sickened with malarial fevers of different types, which continued, more or less, for two years, and that in a neighborhood which had not been malarial before nor has it since. The germs of the disease were evidently transported in the wet soil of the swamp, and it took two years to expend their power for ill.

One word in regard to the nervous effects of malaria. I agree with the last speaker in regard to the phenomena of these symptoms, but in chorea I have found arsenic more reliable and safer than quinine. In giving quinine I find, especially with children, that small and oft-repeated doses are better and safer than large doses. Where there is fever of a congestive form which endangers the life of the patient, then I give ten or twenty grains, but I have never given more than twenty grains at one time. The prophylactic treatment of going away from home has a double advantage. I believe that the germ does not reproduce itself in the system, but

that it comes from external objects; and so when we send our patients away from home and they cease to breathe in or imbibe the germs into their system, and their digestion improves (the gastric juice becoming a more perfect germicide), we gain in two directions.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

At the regular meeting of December 20, 1892, the following nominations were made of officers for the ensuing year:

President, Dr. J. C. Shaw; Vice-President, Dr. Geo. McNaughton, Dr. Jos. H. Hunt, Dr. Joel. W. Hyde; Secretary, Dr. David Myerle; Ass't Secretary, Dr. H. B. Delatour, Dr. W. C. Braislin; Treasurer, Dr. Chas. N. Cox; Librarian, Dr. Wm. Browning; Censors (5), Dr. W. M. Hutchinson, Dr. Joel W. Hyde, Dr. E. H. Bartley, Dr. C. F. Barber, Dr. Geo. E. Law, Dr. Arnold Stub, Dr. Herman Bender, Dr. Reuben Jeffery, Dr. Geo. McNaughton, Dr. J. M. Van Cott, Jr., Dr. J. W. Fleming; Trustee (one vacancy), Dr. Z. T. Emery, Dr. Charles Jewett; Delegates (6) to State Medical Society, Dr. Reuben Jeffery, Dr. J. M. Winfield, Dr. H. C. McLean, Dr. H. R. Price, Dr. C. F. Barber, Dr. H. A. Fairbairn, Dr. Frank Baldwin, Dr. George E. Law, Dr. J. M. Van Cott, Jr., Dr. James W. Fleming.

McARTHUR POCKET DIARY.

The McArthur Pocket Diary is one of the handiest and most useful little books for the physician that we have seen. Besides being a diary, it contains doses of the drugs in common use, including the new remedies, a list of disinfectants and how to use them, antidotes for poison, methods of treating emergencies, an obstetric "ready-reckoner," and other valuable information. The McArthur Hypophosphite Co., at Ansonia, Conn., will send a copy free to any physician on application.

THE BROOKLYN MEDICAL JOURNAL.

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Books for Review and Exchanges should be addressed BROOKLYN MEDICAL JOURNAL, 356 Bridge Street, Brooklyn, N. Y.

All other Communications, Articles for Publication, etc., should be addressed Editors BROOKLYN MEDICAL JOURNAL, 173 Joralemon Street, Brooklyn, N. Y.

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Authors desiring Reprints of their papers should communicate with M. J. Rooney, 114-120 W. 30th Street, N. Y., stating the number of Reprints desired, and the number of JOURNAL pages their papers will occupy, allowing 470 words to a page.

Each contributor of an Original Article will receive five copies of the JOURNAL containing his article, on application at the Rooms of the Society, 356 Bridge Street.

Electrotypes will be furnished authors free of charge, if proper drawings are provided. Electrotypes of engravings will be furnished authors at cost, when they wish to preserve them for future reproduction.

Alterations in the proof will be charged to authors at the rate of sixty cents an hour, this being the printer's charge to the JOURNAL.

EDITORIAL.

CLAIRVOYANCY IN SYRACUSE.

The following is a copy of a letter written to a patient living in Brooklyn by a Syracuse clairvoyant. It would seem that there is an opportunity to enforce the medical practice act in the city of Syracuse :

SYRACUSE, N. Y.

"I examined your belt and tell you herewith what I seen in the examination. Liver and stomach bad, water on the heart and blood imflammation in cidneys and bowls, catarrh in blood and nerves, and poison in blood, pimples in the lungs and nervousness. It will take three months to cure you. Hoping to hear from you soon, I remain

Respectfully yours,

_____ _____.

"The charges are fifty ct. for reading the belt, the medicin is 1 Dol. 25 ct. If you don't wish to doctor here you can write and I will send the 50 ct. back."

PRELIMINARY EDUCATION; WHERE SHALL IT BEGIN?

We are led to ask this question by seeing in a letter, commendatory of a most excellent translation of an equally excellent medical treatise, the words available and indispensable spelled "avalable" and "indispensible," and this, too, by a professor in a university which has been clamorous for higher education. Unfortunately, the onus in this instance cannot be put on the proof-reader, for the letter is marked "Fac-Simile." Whether the publishers did this to avoid the criticism which would have fallen upon them had the letter been printed from type, we do not know. It is probable, however, that the errors would not have appeared publicly had they come under the eye of the proof-reader.

WOMEN AND THE WORLD'S COLUMBIAN EXPOSITION.

One of the most active organizations in connection with the coming Exposition is the Board of Woman Managers of New York State. The representatives of the Board for the Second Judicial District, which includes Kings County, are Mrs. J. S. T. Stranahan and Mrs. F. P. Bellamy, both of Brooklyn. The Press Committee has as its chairman Mrs. D. C. Hood, also of Brooklyn. This committee, in order to make an effective showing of women in literary work, is compiling a full list of all women of the State who have written anything for publication. An appeal has been made to us to give such a list of contributors to the JOURNAL; this we have done. If any of our readers desire to aid in this work, we shall be glad to put them in communication with the committee. We are naturally especially interested in having the list contain all the contributions to medical literature which have been made by women in the medical profession. Many of these have shown careful and painstaking efforts to arrive at the facts, and have been of great practical value, and inferior to none have been those which have appeared in the JOURNAL.

The Children's Home in connection with the Exposition is under the management of the same board. As it will be impossible for many mothers to visit the Exposition without the children, it was deemed desirable to make some provision for the entertain-

ment and education of the little ones. With this aim in view, the Children's Home has been established. This will give to mothers the freedom of the Exposition, and at the same time the children will be enjoying themselves under the best of care and attention.

In the Children's Home will be presented the best thought on sanitation, diet, education and amusements for children. A series of manikins will be so dressed as to represent the manner of clothing infants in the different countries of the world, and a demonstration will be made of the most healthful, comfortable and rational system of dressing and caring for children according to modern scientific theories, while their sleeping accommodations, and everything touching their physical interests, will be discussed. Lectures will also be given upon the development of the child's mental and moral nature by improved methods of home training.

The building will have an assembly-room containing rows of little chairs and a platform, from which stereopticon lectures will be given to the older boys and girls about foreign countries, their languages, manners and customs, and important facts connected with their history. These talks will be given by kindergartners, who will then take the groups of children to see the exhibits from the countries about which they have just heard. This audience-room will also be available for musical, dramatic and literary entertainments, which will be carefully planned to suit the intelligence of children of varying ages.

Playgrounds, toys, etc., etc., will be provided in abundance. In short, everything which ingenuity can suggest and money provide will be at the beck and call of every child in the land. Contributions to carry out this plan, which is, so far as we know, unique in connection with an exposition, will be very acceptable.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society rooms, 356 Bridge Street, on Tuesday evening, November 15th, at eight o'clock.

The President, Dr. Z. T. Emery, in the Chair.

There were about seventy-five members present.

The minutes of the October meeting were read and approved. The Council reported favorably upon the names of the following applicants, and recommended that they be elected to membership: Drs. Frederick C. Holden, George H. Pierce, John W. Moore, George W. Conterno, Theo. E. Townsend, W. A. Berendsohn, Louis L. Nichols, and H. J. Knapp.

The following application for membership was presented: Dr. S. Paul Truex, 283 Franklin Ave.; L. I. C. H., 1891; proposed by Dr. Nathaniel Matson; seconded by Dr. Z. T. Emery.

SCIENTIFIC BUSINESS.

Topic for the evening: "Treatment of True Croup."

The following papers were read: "Medical Treatment—Especially by the Corbin Method," Wm. Maddren, M.D.; "Treatment by Tracheotomy," Lewis S. Pilcher, M.D.; "Treatment by Intubation," George McNaughton, M.D.;

Discussion by Drs. Shepard, Sherwell, Burge, Pilcher and McNaughton.

NEW BUSINESS.

The Secretary read a communication from the Secretary-General of the Pan-American Medical Congress, addressed to Dr. A. J. C. Skene, a member of the Auxiliary Committee, enclosing a petition and requesting that it be presented to the County Medical Society for its endorsement, and that all physicians in Brooklyn, not members of the Society, be also requested to sign it, and that it be forwarded to the Hon. A. C. Chapin.

The petition appeals to the Congress of the United States to appropriate the sum of about $50,000 necessary to carry on the Pan-American Medical Congress in the proper manner. It is essential that it receive the endorsement of every member of Congress, and to that end each Senator and Member of the House of Representatives is to be petitioned to see that the bill is introduced and passed by both Houses.

The Council recommended that the wishes of the Secretary-General be complied with, and that the officers be authorized to present the petition to the Hon. A. C. Chapin, with the endorsement of the Society and the request that he use his efforts to procure the passage of such bill.

On motion duly seconded and carried, the officers of the Society were authorized to take such action.

On motion, Dr. Jos. H. Hunt was unanimously elected a delegate to the American Public Health Association, and the President authorized to furnish him with the proper credentials.

On motion of Dr. Maddren, a suitable inscription was ordered to be placed on the picture of Prof. Darwin, the gift to the Society of the widow of the late Dr. William Thallon.

The Secretary stated that Dr. Charles E. Perkins, formerly a regular member of the Society and latterly a non-resident member, had applied for permission to become a corresponding member. On motion, the matter was referred to the Council for report.

There being no further business, on motion the meeting adjourned. W. M. HUTCHINSON, *Secretary.*

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

THE SCIENCE AND ART OF MIDWIFERY. By William Thompson Lusk, A.M., M.D. New York: D. Appleton & Co.

It is gratifying evidence of progress in this department of medicine that a treatise which in 1885 represented the most advanced obstetrical teachings of that date has to be almost entirely rewritten in 1892. Such has, as we learn from the preface, been the experience of Dr. Lusk's Midwifery. From the time of its first publication Dr. Lusk's work has been accepted as the leading American text book in obstetrics, and this position has been strengthened with each succeeding edition. The present edition, which is the fourth, bears evidence of painstaking revision in every chapter, and the book comes to us as a new work. The revision reaches to the manner as well as the matter, and the subject is better taught than in preceding editions. The teaching qualities of the book have been improved.

Even the anatomy and physiology have been rewritten. Marked alterations are noted in the chapters on the physiology, mechanism and management of normal labor.

No subject has undergone a greater revolution in recent years than the anatomy and treatment of extra-uterine pregnancy. With most authorities Dr. Lusk believes that ectopic pregnancy is almost uniformly of tubal origin. The occurrence of primary abdominal pregnancy he regards as possible but doubtful. Ovarian pregnancy, on the other hand, he accepts as apparently proven. Electricity is endorsed for the treatment of ectopic gestation in the first three months.

Just tribute is paid to Sänger as the founder of the modern Cæsarean section, and to our own countryman, Harris, for the recently improved results of the obstetric surgery of the abdomen. With a skilled operator and all conditions favorable, the prognosis of the improved Cæsarean operation, the author thinks, is hardly doubtful. He believes that the time is not far distant when it will be

possible to substitute Cæsarean section for craniotomy in all cases "in which the pelvic contraction is sufficient to prevent the birth of a full term living child by the natural passages."

Of laparotomy in puerperal peritonitis the author says: "Favorable results are to be expected when the peritonitis is the result of localized disease as in pus collections or gangrenous conditions of the tubes and ovaries. The idea of accomplishing good by washing out the peritonæum in lymphatic peritonitis is chimerical."

A remark in the preface to the effect that the writer has endeavored "to interweave aseptic precautions with all branches of the obstetric art without, however, insisting upon pedantic measures which experience has shown to be needless," must not be taken as evidence of a lukewarm belief in antisepsis. One has but to read the practical portion of the work, especially the masterly treatment of the etiology and prophylaxis of puerperal fever, to be convinced that Dr. Lusk takes no doubtful stand on this question.

Very few typographical errors are noted, one of which is, perhaps, worth mention. The strength of the normal salt solution for intravenous infusion is limited to five or six grains to the pint instead of ounce, as was doubtless intended.

The mechanical execution of the book, including the illustrations, several of which are from Farabeuf and Varnier, is of the highest order, and altogether the work is one in which the American profession may justly feel renewed pride.

CHARLES JEWETT.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By John V. Shoemaker, A.M., M.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital, Philadelphia, Physician to the Philadelphia Hospital for Diseases of the Skin, etc. D. Appleton, & Co., 1892; 2d Edition, revised and enlarged, with chromogravure Plates and other illustrations.

This second edition is a handsome volume of nearly 900 pages of text and indices, as against about 650 pages in the first, and is a decided improvement upon it. In accounting for the increased bulk it may be stated that there are now in the introductory chapters alone about 30 added pages.

Beginning, as we must do, with recognizing the fact that all books on this subject nowadays are more or less compilations of the thoughts and utterances of other authors, we are led to respect this treatise by seeing that a fair proportion relatively of the text contains the feelings and judgment of the author. Our respect is modified by the feeling, however, that, while usually correct, he is not always so.

To give a general résumé of the contents, we think the chapter on Anatomy (in the introductory pages) fairly thorough and good; that of the Physiology of Skin excellent, as in lesser degree it seems to us are those on Symptomatology, Diagnosis, and General Treatment; that on General Pathology, though in comparison short, is decidedly good.

The Classification, that of course of Hebra, modified by the author, is as usual, with some few changes, not invariably, as it strikes us, the happiest. One, for instance, may be noted, that of including Psoriasis among the Hypertrophies, instead of Exudative class. It is difficult to see the reason of this, if,

as will be seen on consulting the special article thereon in the book, he seems to give credit to the pathology there given by the better-known histologists.

The articles on special subjects are fairly up to the times, and suggestions for treatment are at times original and always full and good; occasionally errors creep in, but they seem rather to be those of hasty proof correction; such, for instance, as in article on Psoriasis, both "Napier," of Glasgow, and "Balmanno Squire," of London, are each respectively credited with the introduction of Chrysarobin as a remedial agent in this form of disease.

The pictures we do not like; they are too few in number and not practically good.

Taken altogether it is a work extremely creditable to the author, and sufficiently good to be recommended to students and practitioners, even while preferring those of one or two other authors. SAMUEL SHERWELL.

THE READY-REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M.D.; with fifty illustrations; pp. 553; Lea Bros. & Co., Philadelpha: 1892.

This little volume, large though it relatively is compared with others of this kind, scarce leaves room for criticism, it being an admirable work, adapted, as the author claims, for the use of students or hasty reference by the busy medical practitioner. The text is conveniently arranged, the special diseases being noticed in alphabetical order, which, though not strictly scientific in plan, has its advantages. We can sum up the review in saying that we believe this work easily the best of its class, and we congratulate our friend and colleague, Dr. Jackson, on its production. One little chapter on Dermatologic "Don'ts," will be found by many general practitioners well worth the price of the book. SAMUEL SHERWELL.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By Henry M. Lyman, A.M., M.D., Rush Med. College, Chicago. Lea Bros. & Co., Phila.: 1892.

The above work is divided into thirteen parts, with one hundred and four chapters. In these are considered preliminary matters, parasitic and infectious diseases of the alimentary canal, of the abdominal organs, of the respiration, of circulation, of the blood, of nutrition, of the kidneys, of the nervous system, of the spinal cord and membranes, of the sympathetic nerve and muscles, of the brain and its membranes. This has been done in nine hundred and fourteen pages. As the paragraphs are closely written, there is a large amount of material presented.

ESSENTIAL OF DIAGNOSIS ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS FOR STUDENTS OF MEDICINE. By Solomon Solis-Cohen, M.D., and Augustus A. Ashner, M.D. Philadelphia: W. B. Saunders; 1892; pp. 382; Price, $1.50.

Much can be said for and against "Quiz Compends." But they seem to have a place, else they would not have come into such general use in medical schools. With the extension, in breadth and thoroughness, of the course of medical study some device for condensing the different subjects was necessary. The one most acceptable seems to have been these compends. Some subjects

lend themselves more readily to this mode of treatment than do others. Of the former the subject of Diagnosis is one; it can be very well presented in the form of question and answer. And if the work is prepared by experienced teachers, as this one has been, the result is highly satisfactory. The selection of topics, their arrangement for treatment, and the proportion of space allotted to each require the maturity of judgment and the skill which come only as the result of long experience in the class-room. In every department this work shows that its authors are skilful teachers. The form of the questions and the clear, full, yet concise, answers make it a most useful book for the student. A student who will carry in his mind the cases he has seen in the clinic or at the bedside and then study this book will store his memory with the essential facts regarding the clinical aspects of the various diseases, which will make a solid foundation for future independent clinical work. If the book is used in this way no reasonable person can doubt the positive utility as well as advantage of such a question compend.

FRANCIS H. STUART.

A TEXT-BOOK OF MORBID HISTOLOGY FOR STUDENTS AND PRACTITIONERS. Robert Boyce, M.B., M.R.C.S., Assist. Prof. of Pathology in University College, London; New York: D. Appleton & Co.; 1892.

This is a quarto volume of 477 pages, including index and 130 colored illustrations; mostly photomicrographs.

The typography is very beautiful. The illustrations are, for the most part, highly characteristic of the subjects they pretend to represent, and many are the best of the kind the author of this criticism has ever seen; though none of them compare with the exquisite photomicrographs of Dr. Francis Delafield, of the "Renal Lesions."

Of the context it may be said that the arrangement into consideration, first of the general or fundamental underlying principles of cellular pathology, and second of special lesions of special systems, is well conceived, and for the most part admirably carried out.

The whole is practically free from dogmatic statements, and no mere theory is blindly adhered to without facts of observation to back it. It is indeed a splendid collection of the best and most modern views of the first men of the world on such matters; and the ample bibliography gives evidence, as Mr. Horsely says, of the extensive literary acquirements of the author.

In point of general utility it may be fairly said that this book appeals only to such of the medical fraternity as are educated up to its contents; for a man unfamiliar with elementary histology and the use of the microscope it is, perhaps, little more than a handsome addition to his library; but to one fairly equipped with rudimentary knowledge in this department of medical science the work is simply invaluable.

Like all such publications, some things admit of adverse criticism. For instance, in the chapter on technique no mention at all is made of methods of examining fresh material—a matter of the first importance in many respects; but this and any other defects are quite swallowed up by the vast array of valuable facts and thoroughly consecutive and logical treatment.

We think that Mr. Boyce's book ranks as a classical work of the first quality, thoroughly modern in every respect.

J. M. VAN COTT, JR.



Non RIOLANVS, at est hic Bibliotheca vocàndus,
Quippe quod in tota discitur Arte, tenet.

GVIDO PATIN, D. Med. & Prof. Reg.

Vand pinx. G. Rouselet sculp

JOHN RIOLAN.

The subject of our sketch was the son of the eminent French physician of the same name, and born at Paris in the year 1577. While his father afforded every encouragement to his rising talents, his mind was naturally directed to the study of medicine, in which his progress was uncommonly rapid.

He took his degree in 1604; and a very few years after acquired great reputation as an author. In 1613 he was appointed royal professor of anatomy and botany by Louis XIII., and in this latter capacity he petitioned the king for the establishment of a botanical garden in the University of Paris. He subsequently held the position of physician to Queen Maria de Medicis, and accompanied that princess in her travels; he arrived at Cologne after her death in July, 1642, and returned to Paris, where he resumed his profession. After having twice undergone the operation of lithotomy, he lived to the age of eighty years, and died at Paris, February 19, 1657.

Riolan, although one of the most expert and learned anatomists of his time, was hindered in his progress as a discoverer by his extreme devotion to the ancients, and yet was arrogant in his claims to originality, and by his pertinacity and contempt for others, he raised many opponents and enemies. He published many new observations, however, respecting many parts of anatomical science, especially the structure of the colon, the biliary ducts, the uterus and vagina, the tongue, os hyoides, etc., but he did not illustrate them with engravings, as it was a maxim with him that no representation could supersede the study of nature.

His works, which were numerous, were not confined to anatomical subjects; although it was in that line that he did his best work Among other things he wrote five books opposing the doctrines of Bartholinus and Piquet, respecting the lacteals, and Harvey's on the circulation of the blood.

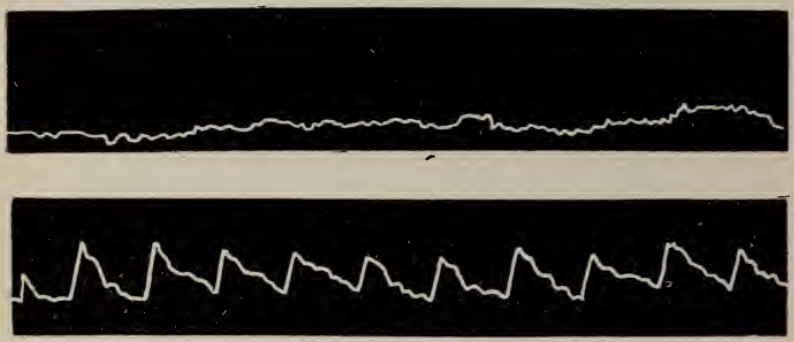
Among other things Riolan agitates the question, whether it be lawful to dissect living persons for the purpose of promoting knowledge, and, what is more surprising, he concludes in the affirmative, that cases may occur in which this species of dissection may be justified. He endeavors to confirm this opinion by diverse examples. Such dissections were practiced by the physicians of antiquity, and probably on criminals sentenced to death, as we find that Celsus reprobates the practice as cruel, barbarous and horrid.

The tracings which are presented are copies of those taken at the bedside, with the exception that the markings on the unvarnished paper, made immediately after taking, have not been reproduced. The tracings are arranged in groups. No exhaustive commentary is given, but below the last of each group are a few explanatory words. The nomenclature used may seem somewhat unfamiliar, as it is, in part, a personal one.

There are presented, therefore, a series of sphygmographic tracings, illustrating the *seventh* use of the instrument:

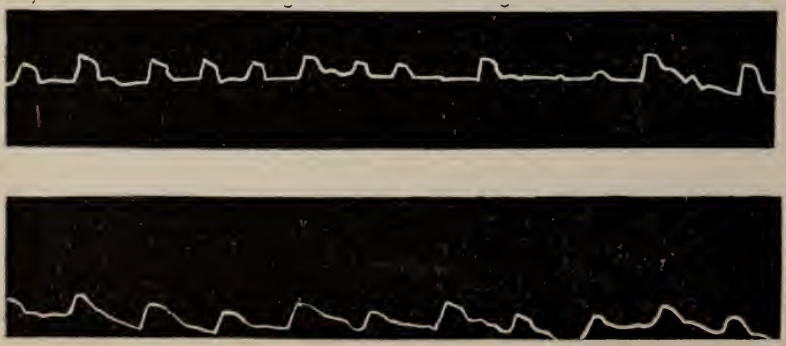
To show the effect of drugs:

Case: Cardiac Neurasthenia.



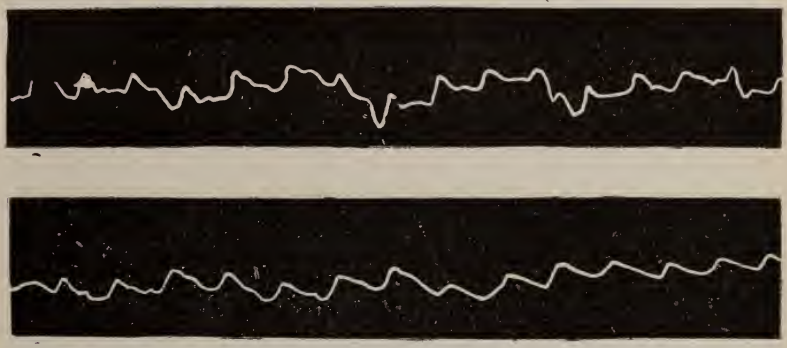
In the first all the systolics are short. There is feebleness without great irregularity. Drugs used were: *sulph. strych.*, *gr.* $\frac{1}{48}$, and *sulph. atropia*, *gr.* $\frac{1}{96}$, q. i. d., which at the end of fourteen days gave the second, showing line of ascent, summit wave, tidal wave, and a good aortic rebound. There is an element of weakness, but strength is very much greater.

Case: Intermittency (from muscular weakness).



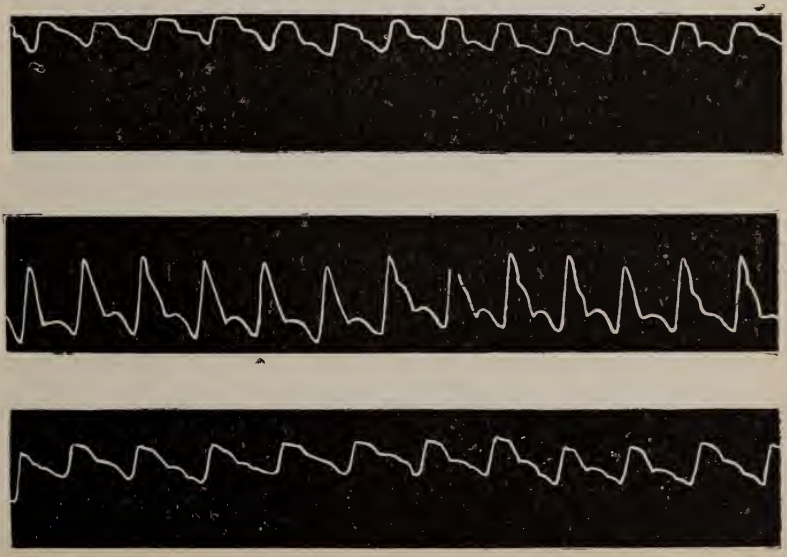
The patient was a woman well advanced in years. At the time of the first she had a bad bronchitis; marked intermittency. The tracing shows tendency to increased systole after dropping of beat. In the second there is a wave and a tremor. No true intermission. Intermittency removed by drugs.

Case: Pulmonary Tuberculosis.



The first shows normal strokes, irregular strokes, intermittency, tendency to retardation of commencement of systole, faint forcible contraction occasionally. The second is fifteen days after; strength and regularity are gained. Drugs used: *ether* and *ammonia*.

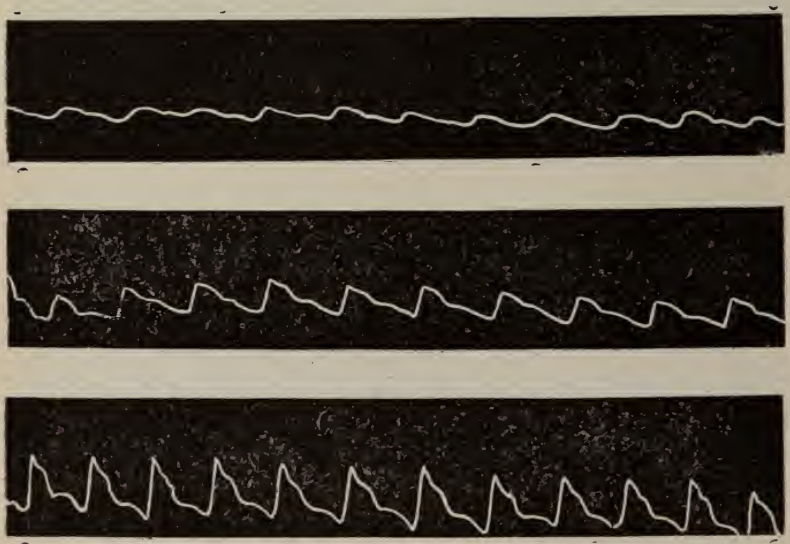
Case: Diabetes (high arterial tension).





The above show the action of *nitro-glycerine : To reduce tension, never to stimulate.* No. 1 shows the broad summit of a hard artery. No. 2 is after twelve days of *nitro-glycerine,* having sharp ascent, immediate fall, being a soft pulse. Nitro-glycerine was then stopped. No. 3 shows a return to first condition (No. 1); nitro-glycerine again used. No. 4 is like No. 2. The interruption in the use of drug, the return to a hard pulse and the subsequent softening are all shown.

Case : Mitral Regurgitation.



The first shows irregularity in volume and time. The second is after *digitalis* and *strophanthus.* There is a tendency to exaggerated tidal wave. The third is three months after second. There is more forcible closure with good rebound.

Case : Mitral Stenosis.





In addition to the obstruction there was a small, weak left ventricle. The second is after seven days' use of iron ; shows more muscular strength.

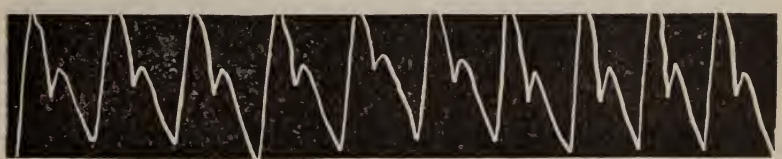
Case : Parenchymatous Nephritis.

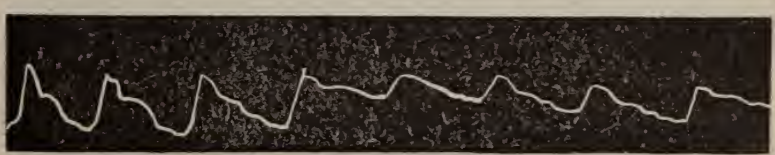




The first shows long beats, partial and complete intermissions. In the second there is greater rapidity and sharper strokes. Drug used *citrate of caffeine*, which brought urine from 21 oz. up to 70 oz. The long sharp line near end of second shows increased force after intermission (partial).

Case : Bronchitis (fever).

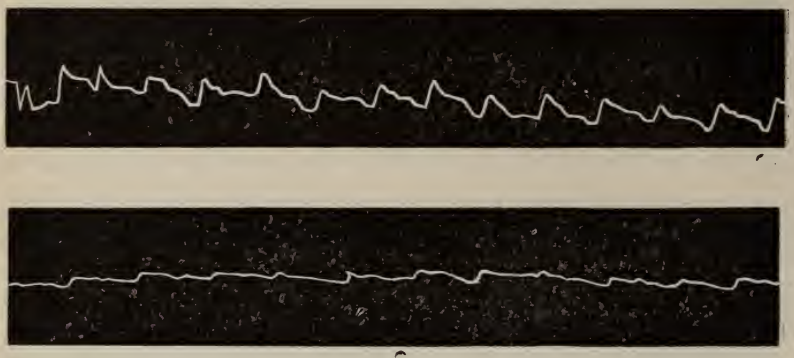




No. 1 shows a full artery with bounding beat ; quick ascent ; sharp summit wave ; pause large ; tidal wave (notch in descent ,

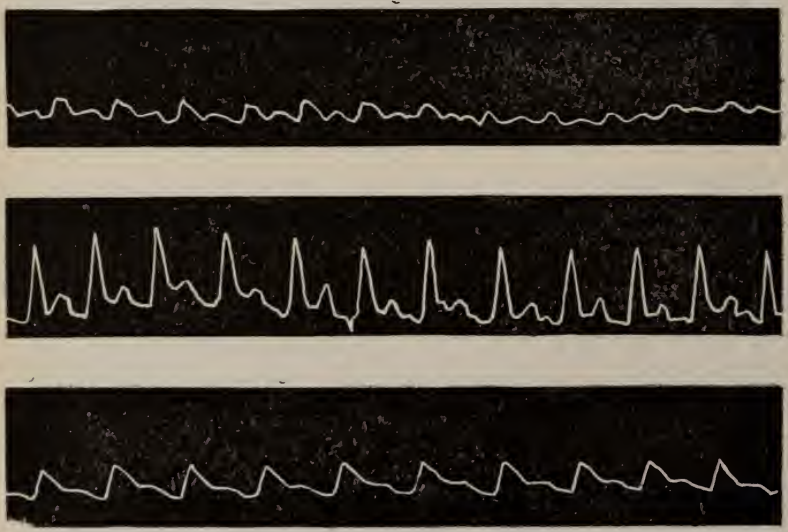
no dicrotism. There is abundance of blood. No. 2 is forty-eight hours after. *Tartar emetic*, gr. $\frac{1}{16}$ every two hours has been given. The dicrotic wave is now present and vessel is less full.

Case: Diffuse Nephritis.



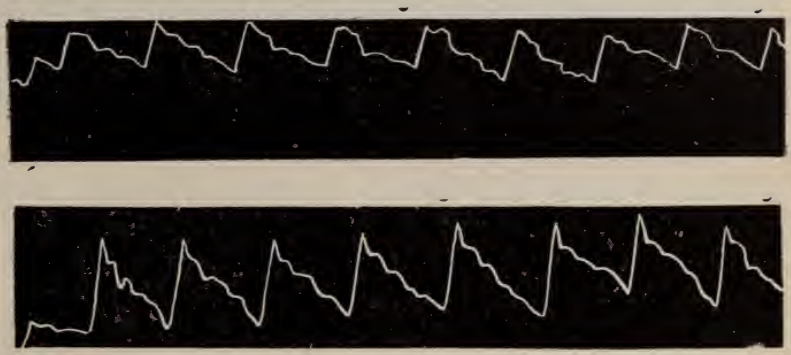
No. 1 is after forty-eight hours' use of jaborandi. No. 2 is after five days' use. It shows a soft pulse; reduction of tension; lack of tone (better renal circulation.)

Case: Parenchymatous tonsillitis.



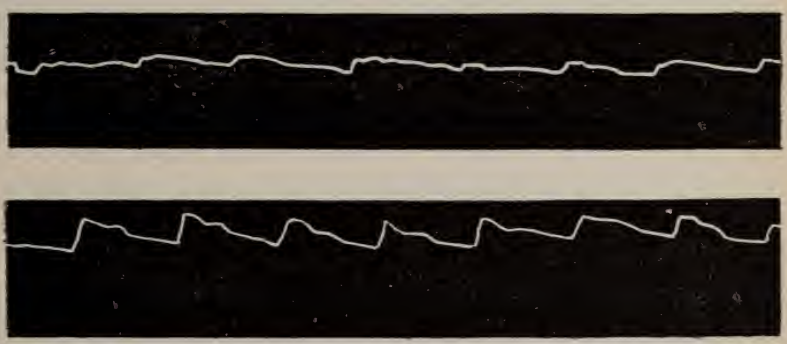
No. 1 shows the quick, irritated pulse of fever. P. 108, T. 101°. No. 2 was taken when patient was sweating; soft and full. P. 92, T. 99°. No. 3 was taken when pulse was 80, returning to normal. (Sharp point in fifth beat, No. 2, is mistake in engraving.)

Case: Multiple Ulcers of Stomach.



The first was taken after patient had been six days without food by mouth, having had *rectal feeding*. There is a sluggish pulse, prolongation of systole. The wave of impletion comes too soon. The second is after *mouth feeding*. It is nearly a normal pulse. The tidal wave (first notch after summit) comes at proper interval. There is a dicrotic wave. The action is quicker and more frequent than in the first.

Case: Cardiac Dilatation.



The first shows the weakness of the left wall. In the second, there is an absence of the dip, a better aortic notch, a better rebound; change came in *twenty-four hours* from *ammonia* and *caffeine*.

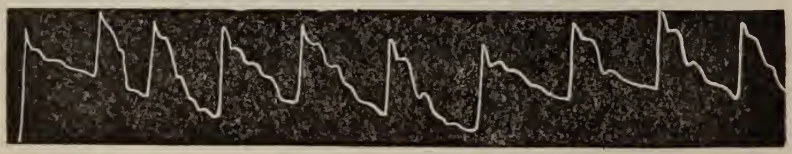
Case: Mesenteric Carcinoma.

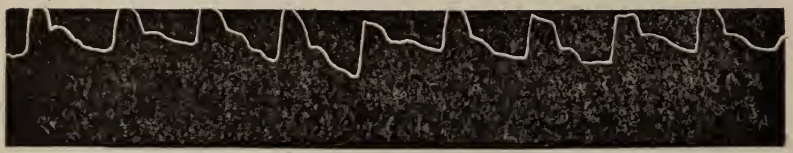




No. 2 is after thirty-five minutes' use of electricity (continued current). It shows more vigorous contraction, by higher line of ascent, delayed tidal wave, prolongation of summit. Cardiac ganglia were affected.

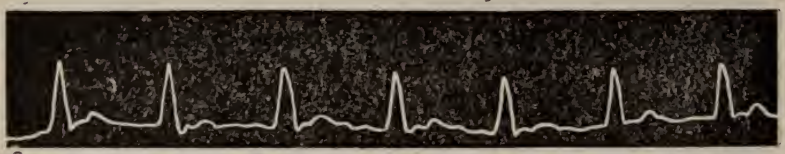
Case : Cardiac (double aortic).





The second tracing shows the result of fifteen days' treatment by *ergot* and *iodide of potash*. It shows a firmer contraction. The murmurs became more loud.

Case : Enteric Fever.

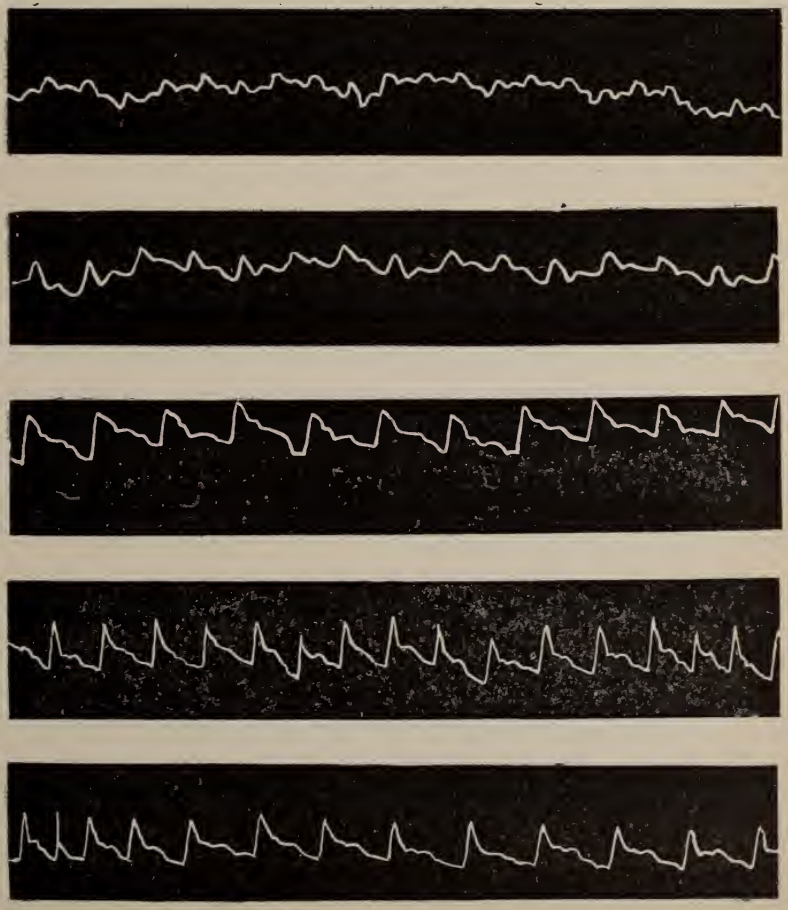






In the first the patient had been on *sparteine*, gr. $\frac{1}{4}$ every three hours for twelve days. It is the only cardiac drug having a peculiar individual tracing. The strength comes in a strong pulse after beat of ventricle. Whiskey was also given. No. 2 shows continuance of whiskey but no sparteine for forty-eight hours. The pulse power lingers. No. 3 shows ℥ii of whiskey q. i. d., pulse being normal.

Case : Mitral Regurgitation.



In No. 1 is shown irregularity in volume and time. No. 2 is in four days under *tr. digitalis* ♏ v., q. i. d., with the use of *tr. iron* three days. The pulse is slower and there is a longer diastole. No. 3 is in nine days. It shows a few normal beats; summit is broader; distinct tidal wave; pulse wave more regular. No. 4 is in twelve days, after walking, and shows retained strength after exertion. No. 5 is after twenty-one days' treatment and shows a resemblance to normal. The above tracings are not typical of digitalis, as neither that drug nor strophanthus always gives tracings that are individual and peculiar (as from sparteine). They merely tend to make pulse normal when used in mitral regurgitation.

OSTEOGENESIS AND OSTEOPLASTY IN CRUSHING LESIONS OF THE EXTREMITIES.

BY THOMAS H. MANLEY, M.D.,

New York.

Read before the New York Association of Railway Surgeons at New York Academy of Medicine, Nov. 14, 1892.

The study of the normal growth of bone, in the evolution of the body, and the degeneration of osseous substance, is a subject of interest to all engaged in the healing art, and, to the operating surgeon, who is frequently called to deal with every phase of pathological transformation and lesions in the bone structures arising in consequence of violence, it is imperative that his knowledge be deep and precise with regard to it.

If we examine the shaft of the bone, of a growing child, and contrast its minute elements, chemical composition, anatomical structure and contour with the adult bone, we will notice a striking difference. In the one there will be noted but very minute trabeculæ in the medullary surface, which are later to expand and become the Haversian canals. The bone cells and the osteoblasts are less numerous than in middle age, and the cement intercellular substance is more abundant. On cross-section it will be noted that the periosteum sends down into the superficial, cortical substance minute fibrillæ, which carry with them minute capillaries, nerve fibres and lymphatics. The endo-chondral or epiphyseal ends are,

at this stage of life, found endowed with a very free vascularity. The coats of the vessels being very thin, are supported by a cartilaginous network.

GROSS STRUCTURES.

In the healthy bone of the child we will observe that the medullary cavity is of a reduced capacity, and that the stroma of the bone-marrow consists rather of cellular tissue than fat. This, after death, when the blood has coagulated, is of a deep crimson color.

The compact substance is now flexible and imperfectly ossified, which renders the dessicated bone so light, as compared with the adult's.

The periosteum is now thick, spongy and highly vascular in early youth. On boiling the bone or subjecting it to macerating processes, the epiphyses and apophyses are readily separated from the shaft. So slightly are the articular ends of the bones ossified that they may be readily divided with a sharp knife. The reverse of the above will be observed in the matured adult, until the meridian of life is reached, and degenerative changes set in; which, strictly speaking, are physiological, though they are generally classified as pathological.

In this stage of man's existence, the senile state in the osseous system is most obvious. Inorganic elements predominate; the shafts become shorter and of diminished calibre. Those which lie near the surface, in the absence of an ample nutritive supply from within, seem to derive their peripheral sustenance from the loose subcutaneous cellular membrane. For now, in many places, we will notice marked atrophic surface changes; the skin, through atrophic degeneration, being as thin as parchment and firmly adherent to the bone surface over which in early life, it smoothly glided. Very many other microscopical changes, are observable in declining years which may be studied with advantage.

ABNORMAL INFLUENCES WHICH AFFECT THE GROWTH OF BONE.

The normal, symmetrical growth of the skeleton demands, along with other things, ample exercise of the limbs. Hence it may be laid down as an axiom that *any* serious injury of a limb in a growing child, regardless of whether a bone or joint is implicated, which entails a protracted immobilization of it, invariably entails an arrest of growth. This phenomenon is more noticeable in the lower extremity than the upper; perhaps because of the difference of function.

Violent forces, suddenly applied, may wholly devitalize the greater part of the diaphysis of a shaft without inflicting extensive

damage to the soft parts. It is needless to add that hygienic surroundings exercise a marked influence on bone-growth and development.

OSTEOGENESIS OR OSSEOUS REGENERATION AFTER DISORGANIZATION OF BONE FROM VULNERATING FORCE.

Osteo-genesis, strictly speaking, is a process exclusively associated with normal bone development, though it has by many distinguished authors been employed to designate a mode of bone-repair. The term osseous regeneration, or reconstruction, is to be much preferred, for the reason that one is led to assume, from the former, that after loss of bone by disease or accident, true normal osseous tissue is regenerated, an assumption which is far from the truth, and has no foundation in fact, for such is never the case.

The periosteum is never reproduced; the medullary structure, once destroyed, is never restored; the bone-cells alone proliferate, provided the parts are favorable to it. The osseous solder, however, which is thrown out in a marvellous degree after injury, supplies all the functions of normal bone.

There are several sets of bones, which in a high degree, possess active, regenerative power, while others, at different stages of life, are wholly devoid of it.

For instance, at all stages of life, the bone shafts with few promptly unite, and in early life, permit of considerable mutilation of them with impunity. The femur and humerus are the only exceptions. The cranial bones are totally wanting in the power of osseous regeneration, except in very early childhood, when the osseous layer of the dura-mater has been known to shell over a gap with a calcified plaque.

OSTEOPLASTY—AUTOPLASTIC, HOMŒOPLASTIC AND HETEROPLASTIC.

In traumatisms the aid of osteoplasty is invoked most commonly in fractures of various descriptions.

In this species of injuries it may be designated autoplastic, in asmuch as we aim to secure osseous reconstruction by the simple replacement of parts belonging to the same individual.

A very large field was promised, for this procedure in fractures, after anæsthetics and antiseptics came into use; particularly the latter.

In those severe, but obscure injuries of a limb, in which a fracture was suspected, but could not be proven, it was supposed that with pain and infection in abeyance, the free division of the overlying parts, inspection and replacement should be a safe and

simple means of diagnosis. And, in all fractures, in which no sort of adjustment would wholly overcome deformity or prevent over-riding of the fragments, it was hoped that an incision, the drill and wire, would render all cumbersome splinting, weights and extension unnecessary.

Indeed, some went so far as to not only recommend this procedure, but to also practice it, notably on the patella. It cannot be gainsaid, that in patella fracture, where the patient safely ran the gauntlet of infection, recovery was prompt, with function as good as by any other means. But, many came to grief, when they applied the same principle to the shafts, and had the deliberate hardihood to make a simple, a compound fracture. When this practice was applied to the femoral shaft, in many instances the consequences have been terrible.

Surgical fever and septic infection, in one case, which was in my own service, cut off life within a week. I have seen two other cases. One, in a young woman who barely escaped with her life, but her general health was seriously shattered. In another, a man, he was narrowly saved, after his femur was wired, and to-day, after spending the greater part of four years in hospitals, all his joints are anchylosed from the hip down ; besides, the fragments never united.

Free incision into a fracture, the rendering of a simple, a compound fracture, is never a justifiable expedient for either diagnosis or mechanical treatment, except on the skull.

OSTEOPLASTY IN COMPOUND OR SHATTERED FRACTURES.

In those fractures, attended with an extensive breach in the overlying soft parts, communicating freely with the fragments, osteoplasty is one of the most invaluable resources, known to surgery.

When a compound fracture is multiple in the tibia and when the fibula is not exposed nor seriously disorganized, if the fragments on any surface preserve cellular-tissue or muscular-attachment, one or more of them may be replaced and fixed in position with a very good prospect of ultimate consolidation, resulting.

In some cases, the bone is so crushed and disorganized, that the fragments are completely disconnected. With this class they must be removed ; for, if they are not, they will either undergo an aseptic absorption or ulcerate through.

Not infrequently, we will meet with these cases, after repair of the soft-parts is complete, when what is known as a cushion-joint remains, with a more or less flail-like movement.

My own practice here is, when in consequence of loss of osseous tissue resulting from a traumatism in the tibia, I resect sufficient of the fibular shaft away to permit the ends of both bones to come together. Such a case came under my care last July, in which it was necessary to remove three and a half inches of the shaft of the fibula before the osseous surfaces of the tibia came together. In this case, solid union has been effected and a very useful limb secured.

HOMŒOPLASTIC AND HETEROPLASTIC OPERATIONS ON THE BONE SUBSTANCE.

While homœoplastic operations are useful on the bone elements, in rare cases, there can be no place for heteroplastic operations on the bone structures of man. Very many cases have been reported of grafts of osseous tissue being transplanted from the lower animals to man. The vitelline membrane of the hen's egg, the soft, succulent tibia of the chick, dried, decalcified, dead bone, etc., have been employed by various surgeons, many reporting good, immediate operative results. There is no evidence, however, that in any of these experiments the heterogenous elements, assimilated, or that they were not absorbed or thrown off, after varying intervals, as foreign bodies.

Very much was promised by this species of heterogeneous grafting for those many chasms remaining after loss of bone, but the truth is, that, except for the purpose of stimulating osteogenetic processes and temporarily filling in a hiatus, little benefit is derived from it.

TRAUMATIC AMPUTATIONS AND CONSERVATIVE MEASURES IN EXTENSIVE MULTIPLE LESIONS, CONSEQUENT ON VIOLENT, DISRUPTIVE FORCE.

In the latter half of the present century, since the general introduction of machinery and enormous extension of railway construction, a condition to which the appellation "traumatic amputation," may be with propriety applied, is being very frequently met with.

The essential distinguishing attribute, of traumatic amputation is the death of the distal parts. Death of the part may be somatic, or it may involve but a limited area of the mutilated structures. It may be primary or consecutive. A traumatic amputation may be complete or incomplete.

The fundamental difference between a traumatic and an artificial amputation is, that the former when completed, passes only through destroyed tissues and is beyond every hope of resuscitation, distal to the point of severance, while in the performance of

the latter, the transfixion of sound tissues is always an indispensable step.

To render this more intelligible and comprehensive, it may be said, that when the wheel of a car crunches a limb in two, effecting a complete severance, the part separated is so devitalized that decomposition at once commences in it. If, on the other hand, when an arm or leg has been but partly dismembered when the skin over the immediate seat of injury is more or less entire, but the bone, muscles and blood vessels have been irretrievably destroyed, when the loss of blood has not been very great and when the immediate or consecutive effects of shock or exsanguination are not mortal, nature will often demarcate the precise line of devitalization, cutting off the defunct below, from the living, above.

For many obvious and cogent reasons, it is clearly evident that in this division, which is effected by lacerating force, primarily or secondarily, with nature's efforts to cast off the dead from the living, the immediate intervention of art, in civil life, particularly, in railroad injuries, is an unwarrantable procedure.

As no surgeon can immediately after a serious, disorganizing railway injury of a limb, define with precision the exact limiting line of destruction, he cannot fail in the vast majority of cases to commit the mistake of either sacrificing too much, or else leaving a sufficient remnant of destroyed tissue, which will necessitate the risk of again imperiling the patient's life by a consecutive amputation. Hence, in this large class of cases of traumatic amputations for the past five years, in my hospital service, I have with great advantage substituted

SECONDARY RESECTION FOR PRIMARY AMPUTATION.

The surgeon on being called to one of those cases; after having thoroughly cleansed the mutilated tissues, efficiently secures all bleeding points as this the first step, complete and rigorous hæmostasis is indispensable. Let him not depend on any sort of tourniquet or rubber bandage for this. Thorough ligation of all the bleeding vessels, firm packing of the wound, with a good bandage over all the dressings, generally will suffice. Yet, vigilance must be exercised when reaction sets in and the cardiac muscle imparts renewed energy to the pulse.

CONSECUTIVE MEASURES.

The danger of hæmorrhage and infection set aside, all foreign substances cleansed from the wound, we may bide our time in

changing the dressings and resecting so much bone as will be necessary to cover in the breach, with integument.

OBJECTIONS AGAINST EXTREME CONSERVATISM IN OSSEOUS MUTILATIONS.

It has been alleged that the danger of tetanus is very great in any case of mutilation of the soft parts, which entails the exposure of the nerve filaments. This may have been the unfortunate experience of some observers, but it has never occurred in a single case which has come under my care; and I am inclined to believe that when it has occurred, there has been fault in the technique of the dressing; or, the patient was exposed to cold, or possibly, improperly nursed.

With proper adjustment of the mangled parts, rigorous asepsis and free drainage, there is little pain or chance of infection.

DISOSSEMENT OR EBONATION AS AN AUXILLIARY RESOURCE IN EXTENSIVE MUTILATIONS OF THE HAND OR FOOT.

In a considerable number of cases of such injuries, as either transversely or obliquely completely crush through the tarsus or carpus, the metatarsal or metacarpal bones; while often a considerable share of bone substance remains, there is an insufficiency of integument to cover in the stump. In many of this class, either a contracted, sensitive scar remains, if healing is consummated at all; or, in order to secure ample flap, one may be obliged to sacrifice so much bone and joint structure, as, in the case of the foot to require later, for purposes of locomotion, some sort of prothetical appliance.

Now, in many of these cases, when one or more of the toes escape, and a large, bare, granular surface on the inner or outer aspect of the foot, fails to close in over the bone surfaces, by splitting one or more toes, dissecting out their bones and tendons, they may be so utilized for flap-covering as to obviate the necessity of making any further sacrifice of the foot.

By this manœuvre, the ankle joint is spared; which for support and motion cannot, by any sort of artificial support whatever, be equaled. The claim which one often hears at the present time, that it is preferable to go above the ankle joint than make any description of median or tarsal-amputation, is as vicious and misleading as it is false and dangerous. By the ebonation of the big toe and first metatarsal bone, during the past winter, in a young man who was badly injured, I have been able to cover in completely a large chasm, without which, an amputation close to or above the ankle articulation would have been unavoidable. At

present he has a useful limb and walks without a limp. In the hand this procedure may be utilized after mutilation of bone, but not with such advantage as in the covered, concealed foot.

Since the publication of the unrivalled work of L. Ollier,[1] reinforced by modern surgical therapy an enormous number of joints and limbs have been saved which had hitherto been sacrificed. His observations, though extensive and varied, were mostly limited to pathological bone lesions.

I am not aware that any extensive systematic work has yet been written on modern osteoplastic methods of treating extensive disorganizations of bone, which resulted solely from traumatic influence. In the body of this paper I have endeavored to record as fully as possible, all the isolated cases scattered through current domestic and foreign literature on the subject. To one not familiar with the enormous progress in this direction during the past twenty years, a knowledge of the advance in this direction of conservatism is indeed, a marvel and revelation.

ON THE NECESSITY OF AMPUTATION OF THE CERVIX UTERI IN A CERTAIN CLASS OF CASES OF LACERATION.

BY J. W. HYDE, M.D.,

Consulting Obstetrician to the Long Island College Hospital ; Obstetric Surgeon to St. Mary's Hospital ; Member of the Brooklyn Gynæcological Society.

Read before the Brooklyn Gynæcological Society, October 7, 1892.

This paper is not offered as an attempt to prove that amputation is a superior method of procedure to trachelorrhaphy in all cases of injury; or disease consequent upon injury of the cervix, for many cases of trachelorrhaphy in my own practice, as well as in the hands of other operators, would disprove this. Emmet's operation, from the moment of its inception, has been incontestably the best in the great majority of these cases; gynæcologists all over the world have acknowledged this. But this paper is offered to show

[1] Traité Experimental et Clinique de la Régénération des Os. Par L. Ollier, hirurgien de l'Hotel Dieu, Lyons.

that sometimes there may be a just discrimination made in the choice of methods by which we seek to relieve the prolonged distress and wretchedness incident to the injuries of parturition.

Trachelorrhaphy and amputation of the cervix are not rival operations in the field of gynæcology, as might be inferred by a casual reader of medical polemics; but on the contrary, each one enjoys a definite and exclusive range of usefulness, and cannot be replaced by the other without detriment to the patient. Trachelorrhaphy is well established, thanks to the ingenuity, perseverance and commanding personality of Dr. Emmet. It aims to restore a lacerated cervix to a normal state and function. Amputation of the cervix by galvano-cautery, *for malignant disease*, is well established, thanks to the ingenuity, perseverance and commanding personality of the distinguished president of the American Gynæcological Society, Dr. Byrne. But the necessity of amputation by galvano-cautery—and that exclusively—for relief in certain cases of laceration, does not yet seem to be acknowledged in the teachings and practice of gynæcology.

If we consider the average length of time which has elapsed before this class of cases present themselves for treatment, we find, that in cities, it is over three years, and in the country, four to five years; and in many cases they suffer three times such a period of time before a rational method of relief is obtained, thus giving the injury time to work its worst on the normal structure.

In some constitutions disease attacks an injured part more readily than in others; consequently, there can be no limit of time when the injured cervix may not be invaded with permanent disease, and when once this disease, whatever its nature, has established itself in the cervix, we are often surprised at the multiplicity and the gravity of its reflexes.

I refer in this paper exclusively to cases of long standing, where the normal structure has become pathological in its character, both superficial and deep; where the glandular structure, the mucosa, the deep follicles, and especially the area adjacent to cicatricial growths, has become involved to such an extent as to render improbable any return to their proper or normal function. Such cases might be cured by Emmet's operation, if treated early enough; that is to say, if the operation were performed before extensive, deep-seated degenerative changes have taken place in the cervix. It is conceded that some of the cases which I am about to present might have been benefited by Emmet's operation, and undoubtedly would have been, still, after the repair, much diseased structure would remain, and this would be in itself sufficient to keep up

much of the former pain and nervous distress. Those who have operated for cervical diseases for many years, will doubtless bear in mind cases, where the work of repair had, from its apparent perfection, seemed to be successful, but weeks and months brought little or no comfort to their patients. We know that it is absolutely necessary to success in trachelorrhaphy to remove all of the cicatricial tissue, when the sides of the tear are reformed and coapted. This is pathological tissue. Then in cases of long standing, and with more serious and extensive pathological conditions, why should we not remove all that is diseased? Why repair the laceration only? There is no more danger in one operation than in the other. I can say that I have never had the slightest unpleasant complication following an amputation of the cervix, but I can hardly speak so well regarding some of my cases of trachelorrhaphy. Especially, I desire to say, that the apprehension so often expressed that the stenosis of the canal might result from amputation of the cervix by galvano-cautery, could not be based on any facts that have come to my knowledge. With an experience of some dozens of cases, I have never met with a case of stenosis following amputation by cautery; and I am inclined to believe that such apprehensions are based mainly, if not entirely, on theoretical considerations. The theory itself may be faulty. Why should not an annular cicatrix, resting on a fixed bed, so to speak, contract in such a way as to pull its inner border, which is the mucosa of the canal, outward, as much as it pulls the outer border inward?

All of my cervical amputations have been performed with the galvano-cautery with one exception, and this was performed with the scissors. This particular case did well enough so far as the operation was concerned, but the patient was the longest in her return of health. I am satisfied that there is a special value in electric action outside the mere removal of so much diseased tissue. Every one of the five cases reported in this paper was accompanied with subinvolution, and two of them to a marked degree, so much so as to excite suspicion of the presence of tumors. With the recovery of these cases, the subinvolution had vanished in every one of them; so had much pelvic tenderness, due probably to overweighted ligaments or sympathetic congestions. I believe the galvano-cautery was a potent factor in the production of such good results. Possibly it stimulates the local glandular system, and contracts the blood-vessels and muscles to a degree that does not usually follow a knife operation.

"Carl Braun has shown that after amputation of the cervix for hypertrophy the uterus sometimes undergoes changes which re-

semble those which occur physiologically in the puerperal uterus."

"Martin, of Berlin, strongly recommends amputation of the cervix. In a paper read before the German Scientific Association, at Cassel, he gives the result of the operation in seventy-two (72) cases, in all of which, the uterus was stimulated to undergo involution." (Hart and Barbour.)

In an article bearing on this subject, Dr. Byrne says: Amputation by the galvano-cautery is in itself a powerful factor in inducing rapid and certain involution, a process which amputation by the scissors or other means rarely accomplishes.

While the local or pelvic conditions are thus benefited, I cannot fail to note also, how in conjunction with these local reliefs, the dreadful neuralgias, the angina, the basic brain-trouble, the dyspepsia and insomnia all vanish.

I submit herewith the histories of a few of my cases which bear directly on the subject under discussion.

Case I.—Mrs. F. E., age forty, married. III.-para, Has suffered seventeen years with various forms of reflex neuroses. Asthma was among the earlier of these, then gastralgia, cardialgia and cephalalgia. It was seldom that she was free from some form of distress; for the last seven years the difficulty seemed to have centred mainly at the base of the brain, from which the pain radiated sometimes to the top of her head, then down her back. She often lay for days in a large easy chair with her head drawn back between the elevated shoulder blades. She was subject to attacks of excruciating uterine colic, also menorrhagia and insomnia. Naturally of a lively and cheerful temperament she had become silent and morose. Able specialists from half a dozen of the larger cities of the country had pronounced upon her case. To one it was a heart difficulty. To another it was a brain difficulty, with insanity in the near future. To another it was rheumatism. To another it was ulceration of the rectum. In no instance was she relieved for any considerable period; on the contrary, her long, weary years of suffering had necessitated the use of morphia to such an extent as to threaten this as a permanent habit.

I was called to the case in November, 1887. Examination revealed a deep laceration of the left side of the cervix, with cystic hypertrophy: depth of uterus four inches; diameter of cervix one-and-a-half inches, hard, nodular feel. Pressure upon the deep cicatrix instantly produced the dreadful pain at the base of the brain, and also nausea. With so much cervical disease I did not think a trachelorrhaphy would give more than a partial relief and I therefore advised amputation of the entire cervix, which was per-

formed a week later with the galvano-cautery. The uterus was drawn down and with a bistoury an incision was made on a line with and as near the utero-vaginal junction as possible, in which the cautery loop was sunk, when, with a slow heat and with constant traction, the deep cervical structure was removed. With the object of the entire removal of all the diseased tissues, I passed a suitable electrode up to a point just without the internal os, and cooked the tissue thoroughly, hoping to obtain a slough, as I did, of the remaining cicatrix.

The results were happy in the extreme: she has never since had any of her dreadful pains, either in her head, or heart, or uterus. The uterus is reduced to one-half its former size, menstruation is normal. There is no stenosis. The proctitis excited by her disease has ceased. Instead of being gloomy and morose she is happy and cheerful. Instead of seclusion for months at a time from all her friends, she now presides again over her household affairs, entertains without special fatigue, and has traveled all over the country.

Case II.—Mrs. M. D., widow, thirty-four, American. II.-para, first seen by me April, 1887. She is a lady of eminent culture and refinement; of a highly neurotic temperament; has been since the birth of her first child a chronic sufferer from headache, palpitation and difficulties referable to the digestive apparatus, all of which have increased since the birth of her last child, eight years ago. She had been under treatment both in this country and in Europe for uterine trouble, as well as for general nervous and mental disturbances. Argument could not dispel from her the belief that she would ultimately become insane. Her wretchedness was complete. She was willing to submit to any operation, however serious, that promised relief.

Examination showed subinvolution of the uterus with a cervix of more than double the usual size, and a triple laceration, deepest on the left side, together with cystic disease and sensitive cicatricial tissue, with hyperplasia uniform. The conditions attending this case were so grave as to demand prompt and positive measures. I explained to herself and friends that amputation of all the diseased structure would promise greater certainty of relief than any other measure, and this was acceded to cheerfully. As soon as practicable I removed with the cautery loop as much as possible of the cervix, following this up by a free use of the cautery within the cervical canal for the destruction of any remaining scar tissue. The result was most satisfactory. The first time I saw her after the operation, she said she was certain I had accomplished the

longed-for good result; that her head had not felt so clear, nor her nerves so free from tension and pain in years.

This patient went on to an uninterrupted recovery, every feature of her former ailments being either essentially relieved or altogether cured. She married again about two years ago, and a communication from her states that she is well and happy.

Case III.—Mrs. C. W., German, thirty-six years, married. II.-para. At the birth of her first child twelve years previously, a severe bi-lateral laceration of the cervix occurred, involving the deeper structures on both sides. She informs me that she has had frequent headaches ever since, accompanied with such nausea as compelled absolute rest in bed, often for three days at a time. In the interim she had miscarried eight times. Her condition when I first saw her was deplorable. Her neuralgia was more or less constant. She was afflicted with loss of appetite, insomnia and inability to walk even one block.

Examination revealed the deep lacerations with large amount of cicatricial induration and ectropion. There was also a chronic endometritis. I advised, in this case, the usual operation of trachelorrhaphy, believing it would afford the desired relief. This operation was performed in May, 1885, taking great care to remove with the scalpel all the deep cicatricial tissue and considerable of the adjacent indurated tissue. The result, so far as the operation was concerned, was one of the most satisfactory of any that I have had in this class of cases; the union was complete throughout and perfect. Her improvement was very slow. Her menorrhagia was much benefited; there was less headache and nausea and more sleep, but there was only partial benefit as to the subinvolution and cervical induration. She became pregnant eight months after the operation and passed through the period of gestation ordinarily well, giving birth to an eleven-pound boy. The cervix yielded again on the left side, in the line of union, but not to any considerable extent. Later on her old troubles returned with much of their former force, making her an invalid for much of the time. Amputation of the cervix was now advised in preference to another trachelorrhaphy, with the hope of permanent relief, by the removal of all the diseased tissues. This was performed in October, 1890, and in the same manner as mentioned in the previous cases, with the galvano-cautery. In every material way it has been a success, removing the causes of reflex irritation, producing involution, and permitting a general restoration to health.

Case IV.—Mrs. S. E. M., thirty-six years, American. IV.-para. Since the birth of her third child seven years ago,

she had been invalided the greater part of the time, She had headaches, insomnia, menorrhagia, weakness in the legs, so that she had not been out of her house for months; and what alarmed herself and friends more particularly, was the frequent attacks of angina with which she was afflicted. The disease in this instance was similar to that indicated in some of the other cases. There was a history of laceration, followed by the formation of cicatricial tissue and deep cervical disease. There was also marked subinvolution. The angina was the most immediately necessary ailment to overcome.

In other cases where I had operated by trachelorrhaphy, I had observed that the angina did not always abate altogether, and when it did, it was slow, taking some months before a material improvement occurred; therefore a complete removal of all the diseased cervical structure was decided upon. The operation was performed in September, 1890 I operated with the scissors, as the patient was remote from the city, and on account of the inconvenience of carrying a battery so far. The patient made an ultimate good recovery. The angina appeared in a milder form two or three times afterwards, since which there has been no return of this symptom. The general physical condition was slow in its improvement, as compared with cases operated upon by the cautery, nearly a year having elapsed before she had regained her strength to such a degree as to be able to resume her household duties in full. This case is referred to for the purpose of demonstrating that operations upon the cervix with scissors are inferior in their results to those performed by cautery methods.

Case V.—Mrs. A. O. S., widow, American, thirty-nine. iv.-para. Youngest child was six years of age.

She had suffered many years with uterine troubles, accompanied with headache and gastric disorders; also, at times, she was subject to some mental hallucinations. Three years prior to coming under my care she had a severe headache for some days, terminating in a hemiplegic attack lasting many weeks. Still later, she was considered mentally unbalanced, and at one time was confined in an institution in St. Louis for a period of three or four months. She was thin, anæmic, nervous, sleepless.

Examination revealed some cicatricial tissue in an unusually large and indurated cervix, which was sensitive to almost any manipulation, however delicate, and, indeed, the whole uterine and ovarian structure seemed involved in a hyperæsthesia. Local treatment continued for many months availed nothing in this case. It became absolutely necessary to relieve her, if possible, of a dif-

ficulty which threatened a permanent insanity. As it was not possible that she would ever marry again, [1] I advised the amputation of the cervix uteri. She willingly acceded to any proposition for her relief, and with some doubts in my mind, at the time, as to the practical results to be obtained in this case I operated. The cervix was drawn down firmly and the line of intended separation marked with a bistoury. Into this line the loop of platinum was adjusted and the entire portio vaginalis removed by the cautery.

The transformation in this patient was a most gratifying surprise. In every physical respect she improved. Her mental condition has kept pace with her physical. She has gained forty pounds in weight and is a healthy woman.

These are a few of the most interesting cases of this class, which I find in my note-book. It is to be noted in all these cases, which are typical, at least so far as my experience goes, that the cerebral symptoms are as characteristic as they are alarming.

I was amazed to read in the American System of Gynæcology, presenting itself as "the leading authority on its subject," this carefully written dictum from the facile pen of my friend, Dr. Grandin: "Pain in the head can scarcely lay claim to a place in the symptomatology of disease of the pelvic organs, unless it be on account of the frequency with which women complain of it." [2]

I cannot doubt that in the next edition of this great work, we shall find that Dr. Grandin's widened experience had led him to modify the above dictum very materially.

To conclude:

1. In cases where the injury is recent, and the constitution of the patient is so good, that no extensive degenerations have occurred, in short, where there is a reasonable probability of being able to restore the cervix to a normal condition, this should be done by Emmet's operation.

2. In old cases, where extensive alterations have taken place, as proved by direct examination, and not less certainly by the unmistakable and intractable reflexes that attend such alterations, the unbearble headaches usually referred to the vertex and the nuchal region, the gastric disturbances, and the endless procession of psychic, neurotic, motor, cardiac and respiratory aberrations, so familiar to every experienced physician, in such cases trachelorrhaphy is out of the question. To remove all the diseased tissues,

[1] Subsequent experience has convinced me that I was needlessly scrupulous in this respect. As a matter of fact, if she had wished to marry, the operation would have been an indisputable preliminary.

[2] (Grandin, Am. Syst. Gynæc. i. 290.)

and that alone, would call for an unattainable amount of nicety of dissection; and supposing the dissection accomplished, the sewing up of what was left might result in a most interesting thing "of shreds and patches," but it would not be a cervix uteri—which is the only legitimate object of trachelorrhaphy. In such cases, amputation is as effective clinically, as it is logical in theory.

3. Amputation of the cervix for disease, affords the best results when performed by the galvano-cautery.

4. The operation is not more dangerous than trachelorrhaphy.

5. It is not likely to be followed by stenosis of the canal.

6. There is nothing in the operation that seriously militates against conception, or a normal gestation and delivery.

In September, 1887, I saw M. S., pluripara, aged thirty-six. She had what appeared to be a well marked cancerous growth, limited to the cervix. On September 28, 1887, the entire cervix was removed by galvano-cautery, and the tumor when subsequently examined by a competent pathologist proved to be epithelioma. On March 7, 1889—that is to say eighteen months after complete amputation of the portio vaginalis by galvano-cautery, Mrs. S., gave birth to a large, healthy child; and she is now, at the age of forty-one, in the enjoyment of good health.

DISCUSSION.

Dr. SKENE.—I understand that the question is amputation in cases of non-malignant disease?

Dr. HYDE.—Non-malignant cases.

Dr. SKENE.—Of course the question of amputation with the galvano-cautery in malignant disease has been well established. This is entirely a new departure, it seems to me, and the discussion should be confined to that.

Dr. BYRNE.—I have very little to say beyond expressing my great pleasure at hearing this paper read, and to find, what I was not aware of before, that Dr. Hyde was working so industriously in the same direction in which I have been working myself for years. Many years ago when I brought this subject before the Obstetrical Society in New York, I was sharply criticised for recommending amputation of the cervix uteri by galvano-cautery, however extensive the disease, so long as the same was not malignant. I stated then that I had met with cases of injury sustained during parturition, which to me, it seemed worse than folly to attempt to repair and that amputation by the galvanic loop offered, and had secured in my hands much better results than could be

obtained by any plastic operation. The great objection raised to the cautery then, namely, that it would leave the stump of the cervix a mass of puckered cicatricial tissue, and that stenosis would invariably follow, I stated, at the time, was a purely theoretical objection, and entirely at variance with my own observation.

Since that time I have repeatedly met with cases of inflammatory hypertrophy of the cervix following extensive laceration, with sub-involution of the entire organ as well as a similar condition of the vaginal parts, and where those injuries were very great and the induration extensive, I have invariably advised removal of the cervix, and I have not seen anything but the best results follow.

The cases recited by the author of this excellent paper only prove what my own experience has taught me, and that is, that if an injured cervix is not in such a condition that it can be made about as good as new, both in form and as to structure, it is worse than folly to attempt to repair it.

Now, in one at least of the cases related by the author, I have very little doubt but if a careful microscopical examination had been made that evidence of malignant disease would have been found. Delaying radical measures, as amputation, or waiting until positive evidence of the existence of malignant disease is presented, is neither safe nor called for in such cases. The statement made repeatedly by Emmet and others, with regard to the tendency of cervical cicatrices following lacerations to put on malignant disease, is, I think, quite correct. In an interesting paper read before this society last year that question came up. I think I was then asked whether I had ever noticed in cases of cancer, that there was evidence of a previous laceration. Unfortunately I could not answer the question affirmatively or otherwise, because, in nineteen out of twenty cases of cancer which we see, the disease has progressed so far that it is impossible to say what the original condition was; but there is no doubt in my mind that traumatic injuries of this kind, especially stellate lacerations, predispose to malignant disease.

That I approve of the treatment as exampled in these cases related to-night I need hardly say—I not only approve, but I have practiced this method for years. In cases of complete procidentia of the uterus it has been my practice for years to amputate the cervix and thereby drain and reduce its size. After removal of the portio I put the vagina on the stretch in an upward direction by means of a firmly rolled tampon, saturated with an antiseptic solution and keep the uterus in position for a week or ten days, when, as a rule, it will be found difficult to drag it down. This very in-

teresting fact was noted by accident many years ago. I had a case of complete procidentia with enormous increase in size of the cervix. It was not malignant, but was as bad as it could be without being malignant. I amputated that cervix for the purpose of lessening the weight of the body of the uterus and with the hope of keeping that organ within the pelvis by some means afterwards. There was also great relaxation of the vaginal walls, in fact rectocele and cystocele, and the late Dr. Nott, of New York, happening to be present when I removed the cervix, he requested permission to operate for the rectocele and cystocele by a new clamp he had devised but never tried. I consented to have him do so as soon as the patient would get over the effects of her amputation. In about three weeks after, he came prepared to operate and then it was found that the uterus, which at one time had been outside the pelvis entirely, could not now be pulled down at all. It was permanently fixed where we had put it. Since then I have repeatedly amputated the cervix as the first step towards curing complete procidentia, and invariably with success.

Dr. Hyde has stated that the amputation of the cervix by cautery is not more dangerous than amputation by knife or scissors. Deaths from amputation by knife and scissors and ecraseur have occurred frequently—it is not by any means free from danger; whereas, amputation of the cervix by cautery is absolutely free from danger.

I am very glad that this subject has been brought forward here to-night, because I still have some hope, although I have rather been inclined to despair of late years, that the profession will yet take the trouble to find out for themselves the great value of a cautery. Whether it is because of the trouble, and there is considerable trouble attending it, I do not know, but the profession do not seem to take to it for some reason or other. A great many imagine that amputation consists in looping a projecting body, such as the cervix, or a tumor that is pedunculated, while really that is but a small part of the work. I suppose I have not used a loop three times in six months. I do almost all the work with the cautery knife and by this instrument alone I can remove as much of the uterus as I choose. Sometimes when the mass is large I get a portion of it out of the way by the loop, so as to obtain room to proceed in an upper direction, but the loop is an insignificant part of the means at our command for conducting cautery operations.

Dr. Chase.—This paper is a valuable contribution to the surgery of the cervix. I think there can be no question but that there are cases of cervical laceration which any attempt at repair must,

from the condition of the parts, be unsuccessful, and that the end desired cannot thus be attained.

In those cervices in which there is multiple laceration, stellate or otherwise, it is a fixed principle not to repair at one time more than two of the angles. It is desirable to cut away tissue enough if possible so that when the parts are brought together there should be but two lines of sutures, parallel with the cervix itself. If this cannot be accomplished the alternative of amputation may be considered.

I am under the impression, Mr. President, that in the examination of a case of laceration of the cervix it is usually an easy matter to determine without asking the patient or interrogating the accoucheur, whether the laceration occurred spontaneously or whether it was the result of forceps. The difference in these two conditions I am quite sure you are all familiar with ; if by the latter method, the restoration is usually more difficult, or perhaps, if multiple, unpracticable. It is an interesting fact however, illustrated in the discussion of this paper, that precisely the same results are brought about in the case of repair of the cervix where it is proper, that you get in amputation. In cases of sub-involution there is great diminution in the size of the uterus, following the operation and that is one reason why repair is so valuable.

I would like to ask Dr. Hyde and Dr. Byrne what influence, if any, amputation of the cervix has as regards subsequent displacements of the uterus ?

Dr. McEvitt.—There is a small practical point which Dr. Hyde is probably aware of but forgot to mention, regarding stenosis following amputation of the cervix. He stated in his paper that it was one of the objections raised to this operation, and properly so if the subsequent attention is not properly directed. It is necessary in cases of this kind to keep the small remaining portion of the cervical canal open by the use of the sound, and to instruct the patient to return at intervals for three or four months afterwards. In this way there is no resulting stenosis, but neglect of this simple precaution sometimes results in partial stenosis at least.

The point brought out by Dr. Byrne regarding the fixation of the uterus high in the pelvic cavity after the amputation of the cervix, is one of very great importance, because in a paper published by Dr. Baker, of Boston, he cites a number of cases where he had operated on the cervix for elongation, following this operation by Alexander's to suspend the uterus. Now with the statement of Dr. Byrne and his large experience, it would go to show that the secondary operation is entirely unnecessary.

Another point that occurred to me in the reading of this paper was this : In cases where there is an enlarged, lacerated cervix, with great hyperplasia, the operation performed by Dr. Dawson with such remarkable results, by puncture of the large nævi, would answer in these cases, for by puncturing portions of the cervix you would have subsequent inflammation and electrolysis uniting to diminish the bulk of it. In cases of that kind trachelorrhaphy could be resorted to, with the diminution by the electrolysis and subsequent inflammation, as I remarked above.

Dr. Byrne.—It would be well to state in regard to the condition of stenosis following amputation of the cervix, that it is a matter which has to be looked after whatever the means adopted for amputation may be. Some of the worse cases of stenosis followed those operations by Sims and others, before anyone here thought of amputating by galvano-cautery, and it was as necessary to attend to the canal after those operations as it is after cautery. It is important in all cases to do as Dr. McEvitt has said. It is my rule to have these patients come before each menstrual period for several times, if they are menstruating women, and have a sound passed or gradual dilation effected so as to guard against obstruction.

In answer to Dr. Chase's question, I would say that I have not noticed such a tendency. It has been stated that the removal of the cervix will result in tipping over the fundus. I do not think the removal of the portio vaginalis has much to do with the tipping over of the fundus. Retroversion would be the principal condition which I would expect to follow if any malposition followed—and I have not noticed that it has—but suppose it did ; the conditions which necessitate such a procedure as the removal of the cervix are of so much more importance as compared with a simple retroversion, that even if retroversion necessarily followed in every instance I do not think it would be sufficient in itself to contraindicate the necessity for amputation.

Dr. Hyde.—Mr. President, I am very much pleased with the courteous manner in which my paper has been received. In regard to the subject under discussion my mind has been positively and firmly set in the direction indicated in my paper for a great many years. I may say I took my first lesson from Dr. Byrne more than fifteen years ago, and at that time I was so thoroughly satisfied with the wonderful possibilities of the galvano-cautery in the treatment of uterine diseases that I determined to use it in my practice, and ever since I have been quietly and persistently work-

ing in this line, and in just the way that he himself very kindly taught me.

In regard to the question of stenosis, I may say that in every case that I have had, I have used the sound or some method of dilating the uterine canal subsequently, but not at any regular periods of time, and I have never yet seen a case that gave any indications of any serious trouble from stenosis. I remarked in my paper that some of the patients were operated upon eight or nine years ago, and their families are under my care at the present time, and if there was anything out of the way I would be likely to know of it, and in not one of them has stenosis occurred. It may be that I am not so careful in that respect as Dr. Byrne would be, but some of my cases I have seen at periods of time, one, two and three years distant from the operation, and I have never had occasion to regret any subsequent inattention in this respect.

In regard to the question of anteversion or retroversion, I have never in any of my cases seen such a result or condition of things following an operation, or in any way caused by the operation. I have seen a good many retroversions that I am quite certain were materially benefited without any treatment for the version at all, but just a simple reduction of the sub-involution from a cautery operation. I have had the question put to me more than once, whether amputation of the cervix did not allow the uterus to topple over one way or another, but I think instead of that it steadies it.

I had hoped that this discussion would extend into a freer consideration of the reflexes incident to uterine disease, for these are too often the apparent objective points of trouble. The relations here of cause and effect are absolute; the designated method of treatment and the results, positive.

Dr. Matheson.—I recently saw a patient with a greatly elongated cervix, the entire length of the uterus and cervix being $4\frac{3}{4}$ inches, of which the cervix was 3 inches. The patient was married and sterile. The cervix presented a fairly healthy appearance with the exception of an erosion from a misplaced pessary. The vaginal walls seemed to be perfect in every way. I have seen several cases with a similar condition, and all of them were sterile. I would like to inquire whether there is any literature on this subject, or if in the experience of anyone present amputation of the cervix in these elongated cervices had removed the sterility.

Dr. Byrne.—I have repeatedly removed the cervix for hypertrophic elongation, but I cannot say whether sterility would be cured, nor can I remember whether they were cases of sterility. The cases I have operated upon have been mostly those of women

far past the middle period of life. Theoretically I should state it as my opinion that the removal of an elongated cervix to the extent described by Dr. Matheson, would be the removal of a positive obstruction to conception, and that therefore amputation would be in order.

Dr. MATHESON.—I would like to ask the President whether in his opinion this condition is congenital or pathological?

Dr. SKENE.—I think that it is always acquired. I have never seen a case where I had any reason to believe it was congenital. The long conical cervix is undoubtedly congenital, but that only is a fraction longer than it should be in its infra-vaginal portion. The cases belonging to the class Dr. Matheson has mentioned, that I have ever seen have been acquired, and it is not an easy matter to say why that condition occurs. I have seen cases in which the entire uterus measured six inches, the cervix projecting from the vulva and the fundus being very little if at all below its normal elevation. I have operated a number of times and I think that two of my patients subsequently became pregnant. That is simply my impression, I would have to refer to my notes to be sure of this.

In reference to the method of operating in those cases of hypertrophic elongation where there is no disease whatever beyond a true hypertrophy, where the tissues of the elongated cervix differ in no particular except in quantity from the normal cervix uteri, then I have always amputated in the ordinary way, and amputated so as to leave a cervix as near what it should have been or was originally as possible. One can almost always count on immediate union with no scar tissue, and in this way I have had very satisfactory results. I do not remember a case where I have failed in that. I can only recall one case, that was only a partial failure. In that case in making my amputation I did not remove enough of the mucous membrane of the cervical canal, so after healing there was prolapsus of the mucous membrane of the canal which had to be trimmed off, which was easily accomplished, but the cervix looked perfectly normal. That mistake occurred in my early cases, but I now operate so as to avoid that.

Another slight mistake which I made in my earlier cases was in removing too much. I removed all that seemed to be superfluous and made the cervix look when I was through with my operation as it should be, but I found that retraction or atrophy occurred to such an extent that made the cervix too short after a time. Now, I would not have any fear about making a cervix as nearly normal as possibly could be. Whether an equally good re-

sult could be obtained by the galvano-cautery I cannot tell, as I have not tried it.

Dr. Byrne.—In connection with Dr. Skene's remarks I want to say a word to define my position with regard to the treatment of hypertrophic elongation of the cervix. If the subject of it is a young or moderately young woman with the hope of having a family, it would make quite a difference in the method which I would adopt. I would then decidedly prefer to do it with the scalpel, as I could make a neater and more normal cervix. Therefore, in certain cases of non-malignant hypertrophy, as in the cases referred to by Dr. Skene, if I expected the subject to be a child-bearing woman thereafter, I should amputate by the scalpel or scissors. I think the cervix following such an operation would be in better shape for conception than after the cautery, though I have known conception and normal gestation and delivery to follow amputation by cautery in several instances.

Dr. Skene.—Perhaps Dr. McNaughton can recall a case of amputation of a few months ago, which was in a youngish woman who was within the range of reproduction, I think not more than 28 or 30. I would like him to tell what the result was.

Dr. McNaughton.—Not more than 24 or 25.

Dr. Skene.—Do you remember the length of that cervix?

Dr. McNaughton.—My recollection is that it was 2½ inches, and protruding from the vulva, certainly the vaginal portion of it was quite two inches. The result, so far as the appearance of the cervix after the operation, was perfect; there was no protrusion of the membrane; it was a good, natural, normal looking cervix.

Dr. McEvitt.—Touching upon the present case, regarding the causation of hypertrophic elongation of the cervix in nulli- and multipara, two cases were given. The condition is conceded to be pathological, and one of the causes supposed to produce it is general enervation and loss of tone due to malnutrition and starvation. Another cause is the pressure of the vaginal walls upon the infra-vaginal portion.

Dr. Skene.—I did not mean to say that I had not heard the reasons for it. I am familiar with them, but they are entirely unsatisfactory. It may be that the cause of this hypertrophic elongation is malnutrition, but it is so circumscribed and local that it can hardly be attributed to the general malnutrition. As to pressure, which has been mentioned, that is not entirely satisfactory to my mind, because it is a rare thing, rare compared with the number of cases where that cause is evidently at work. I do not think that the causes given are altogether satisfactory.

INDIAN OBSTETRICS IN CENTRAL AMERICA.

BY PHILIP MILLS JONES, M.D.,

Yuscaran, Honduras, C. A.

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A native Indian confinement is a novelty to the well educated, antiseptically trained mind of the vast majority of the practitioners of medicine in civilized countries—a novelty which is at the same time very old and which, quite fortunately, but few of the physicians of to-day ever see. I say "quite fortunately" advisedly, for I feel very certain that the resultant shock to the nervous system of many of my numerous professional acquaintances would be quite fatal, or at least productive of "alarming symptoms," were they to see, hear and smell the various elements which go to make up a scene such as I shall try to describe, though I am well aware my poor pen can do it but feeble justice.

The woman is generally unmarried—marriage is not quite so rare in this country as it is reported to be in Heaven, but there is sufficient rarity about it to suggest the comparison—and anywhere from twelve years old up. Picture to yourself a house about twelve feet square, with walls of sticks, plastered with mud, dirt floor and thatched roof, all inside covered with a more or less thick layer of soot, grass and dirt, the accumulations of the months or years that have elapsed since the "house" was built. No window, and but one door, which is always tightly shut during the confinement, though whether to keep out the air or keep in the varied collection of nauseous smells, I have not yet been able to find out. On three sides of the room are boards supported by wooden frames, and on one of these luxurious beds, or more often upon the floor, is the temporary "lerain," her only article of attire being a cloth twisted up into a cord and tied as tightly around her body, just above the abdominal tumor, as the midwife is capable of pulling it. Sitting or standing about the room are from five to twenty women, interested spectators, smoking and talking, and occasionally squeezing the patient's abdomen in order to expedite matters. Indeed I have seen them go so far as to *sit* on the patient, not metaphorically, but actually.

The only light comes from a tallow candle slightly reinforced, if it be in the daytime, by a few straggling rays that creep in through

the cracks in the roof and around the door, and seem lost in the prevailing atmosphere of smoke and a combination of smells which beggars description. Presently there is an unusually loud howl from the victim, a gush of the escaping waters followed during the same or the next pain, by the advent of the child, who now sets up his wail, which adds a little to the weirdness of the scene. A red-hot piece of iron is now produced from somewhere and the cord burned through. Then the child is taken in hand and immediately wrapped up in old rags, a small space only being left for air, and by means of which a most noxious mixture of oil and dirt is put into the poor helpless child's mouth. The mother lies quietly for a few moments then the placenta is pulled out, she is wrapped up, dirt and all, and remains quiet for a day or so, after which she goes about her work as usual. I have seldom seen a more wholesome fear of anything than is exhibited for water. I have had babies brought to me six and eight months old that had never had more than one bath at most.

The audience disperses, the child and mother are left alone in the darkened room with some old hag to look after them, and there is another Honduranian in the world; generally his inheritance is illegitimacy, and congenital syphilis, and both of these will in turn be handed down to the next generation, if the little one be fortunate or unfortunate enough to survive for more than a few years. It is quite common for many scientifically inclined people to deduce from the most plausible arguments that amongst all semi-civilized Indian races several things occur as the result of their free life, which are looked upon as benefits and blessings unknown to civilization and unenjoyed by those of the world's people who persist in wearing corsets, dancing, living in heated houses, and dressing their children. Easy, rapid, uncomplicated labors are the foremost of the blessings they claim, and I have very little to say on that question, but my observations lead me to believe that, at least in this country, it is far from being the case. The percentage of difficult, painful, and often fatal labors, is, I am sure, much larger than in any city of the same size in the United States. In two months I have recorded the following cases:

1. Forceps case. The woman had been in labor for sixty hours before I was called, and the case was a most difficult and critical one—a very large fœtus, a fairly small pelvis, and low physical strength.

2. Very similar to the foregoing, only the woman had not been in labor so long.

3. Pains had ceased and woman was unconscious, presumably from shock. Recovered slowly.

4. Labor lasted thirty-six hours, and would probably have lasted much longer had not the woman's struggles against the violent pains been overcome with chloroform.

There are in Yuscaran about four thousand people, and I am rather sceptical that in any town in the United States, of four thousand inhabitants, will there be any such showing as this. And too, it must be bore in mind, that I see only a few of the cases.

The claim made for more rapid recoveries is quite true in general, but the rapid recovery, or what it actually is, the getting up too soon of the patient brings its own penalty, and I have seen scarcely a woman in the country who has given birth to children who is not constantly complaining of constipation, indigestion, pain in the back and head, variable appetite, and attacks of great weakness and prostration. Of those whom I have been enabled to examine, every one has had either ovarian degeneration, uterine displacement, or both. It is hard to imagine a more broken down, careworn, sick-looking set of women than those of the Moss class over twenty-five years old.

It is claimed for the Indian life that the children living in the open air, not being petted and pampered, dressed in too many clothes and generally spoiled, grow up to be a much stronger, sturdier set than the children more favored of nature, who are born into civilization. The absurdity of this sort of theorizing, at least in its applicability to the Central American Indian, is at once appreciated after a not necessarily more than casual look at the facts, as one sees them here. The death rate of children under twelve years of age in this city, is fully twice that of any town of similar size in the United States. The children are a dirty, puny, sickly set, ninety-nine out of every hundred have worms—"lumbrices"—and it is only the strongest of the strong who can live through many years of dirt, exposure, insufficient and poor diet, and general sickness and abuse, which is the portion of the average Moss child. I have wrought more marvellous cures amongst the Indian children by the plentiful use of soap and water, than with any other articles enumerated in the pharmacopœia.

Many things have occurred to me in my practice here as surprising, things which I had regarded as products of civilization—over-civilization, if you will. For instance, neurasthenia in all its many phases and shapes, is extremely common, and I have seen more cases of asthma in any one month since I came here, than in a year in Brooklyn. Several cases of mitral regurgitation,

congenital, have come under my notice, and the prevalence of syphilis is something incredible. After having considered all things bearing upon the question pro and con, I pass in my vote for the side of civilization.

THE BROOKLYN GYNÆCOLOGICAL SOCIETY.

A regular monthly meeting of the Brooklyn Gynæcological Society was held at the Society Rooms, 356 Bridge Street, on Friday evening, Nov. 4, 1892.

Dr. Walter B. Chase in the Chair, called the meeting to order at 8.45.

There were present Drs. Chase, Corcoran, Jewett, L. G. Langstaff, William Maddren, Geo. McNaughton, J. H. Raymond, John Byrne, and L. Grant Baldwin.

The minutes of the October meeting were read and approved.

Dr. Charles Jewett presented Galbiati's probe-pointed, sickle-shaped knife for symphysiotomy. Some of the objections to it were, that it was unnecessarily heavy, that the blade might be much narrower and shorter, that a much larger incision was required than when an ordinary probe-pointed bistoury was used, and that the backward pressure of the convexity of the Galbiati knife in going down over the posterior surface of the symphysis was more likely to disturb the relation of the parts behind the symphysis than an ordinary probe-pointed bistoury. In the case of symphysiotomy which he had recently published, he had used the ordinary probe-pointed bistoury, cutting from behind forwards chiefly, and to some extent upwards.

Dr. L. Grant Baldwin presented a further report of the case of extra-uterine pregnancy with passage of uterine cast, presented at last meeting.

Discussion by Dr. Jewett.

Dr. L. G. Langstaff presented the paper of the evening entitled "Chloroform and Ether ; Some Suggestions for their Safer Administration."

Discussed by Drs. Jewett, Byrne, Raymond, McNaughton, Chase, Baldwin and Maddren.

L. Grant Baldwin, M.D.,
Secretary.

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EDITORIAL.

PRACTICE OF MEDICINE IN NEW YORK STATE.

It does not seem to be generally understood by the medical profession that no one can commence the practice of medicine in this State until he has complied with Sec. 9, of Chap. 507, Laws of 1890, which reads as follows:

"§ 9. On and after the first day of September, 1891, no person not theretofore a legally authorized practitioner of medicine and surgery, under the laws of this State then in force, shall practice medicine or surgery in this State, unless that person shall have received from the Regents of the University, after examination and approval, as herein provided, a license to practice as a physician and surgeon, and unless said license shall have been registered as required under the provisions of Chapter 647 of the Laws of 1887, or unless such person shall hold a license from a state examining and licensing board of another state, and shall have been licensed by the board of regents, as provided by this act."

The right given by Chap. 647, Laws of 1887, to medical colleges of the State to endorse the diplomas of those who come from colleges without the State, was taken from them by Chap. 500, Laws of 1890, and transferred to the regents of the University. But Chap. 507 does away with this endorsement altogether, and requires everyone to present himself before one of the state boards of medical examiners, unless the applicant has already been examined and licensed to practice by a board of another state. To such, Sec. 8 applies :

"And it is further provided that applicants examined and licensed by state examining boards of other states, on payment of $10 to the University of this State, and on filing in the office of said regents a copy of said license, certified by the affidavit of the president and secretary of such board, showing also that the standard of acquirements adopted by said state examining board is substantially the same as is provided by sections five and six of this act, shall, without further examination, receive from said regents a license conferring on the holder thereof all the rights and privileges provided by sections eight and nine of this act."

For the first time in many years the laws of this state regulating the practice of medicine are in an intelligible form, and while there may be some minor details in which they could well be amended, still, as a whole, they deserve the hearty support of every one who has at heart the best interests of the profession, and any attempt to tinker with them except after due consideration by representative bodies, such as the State Society, should at once receive severe rebuke and condemnation. We hope that if any effort is made to alter them during the present session of the legislature, every physician will regard it as his duty to invoke the aid of the assemblyman and senator of his district to prevent it.

MANDAMUS OF THE SUPREME COURT IN LIEU OF MEDICAL STUDENT CERTIFICATE.

An interesting case has just been decided by Justice C. E. Pratt of the Supreme Court.

Chap. 468, of the Laws of 1889, as amended by Chap. 499, Laws of 1890, requires that every one who on June 13, 1889, had not already entered upon the prescribed three years' study

of medicine, shall "file with the secretary or recording officer of their university or college a certificate signed by the secretary of the University of the State of New York showing either that he possesses the degree of bachelor or master of arts, of bachelor or master of science, or of bachelor or doctor of philosophy received by him from a college or university duly authorized to confer the same, or that during or prior to the first year of his medical study within this state, he passed an examination conducted under the authority of the regents of the University of the State of New York or by the faculty of a medical school or college entitled to confer the degree of doctor of medicine, in accordance with the standard and rules of the said regents in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy; or in their substantial equivalents approved by the said regents, or that he possessed qualifications which the regents considered and accepted as fully equivalent to the above named qualifications."

The "prescribed three years of study" are those begun after the age of eighteen years, either with a physician or at a medical college. One of the students of the Long Island College Hospital began the study of medicine with a physician before he was eighteen, and continued the study for the requisite time after that age, but unfortunately he was not eighteen years of age until June 17, 1889, four days after the law quoted had gone into effect. This student not having qualifications which the regents of the University considered as equivalent to the qualifications required, the regents decided that he must submit to an examination; this he did and obtained his "medical student certificate" on July 20, 1892. The authorities of the college examined the student, who passed a satisfactory examination. They declined to grant a diploma at present on the ground that under the law they were prohibited from granting it until July 20, 1894, as the law distinctly states that a certificate must be filed showing that the examination was passed during or prior to the first year of medical study within the State, and that the three years could not begin earlier than July 20, 1891, one year before the date of the certificate. Justice Pratt on December 7, 1892, issued a writ of mandamus requiring the Board of Regents of the Long Island College Hospital to confer upon the student the degree of doctor of medicine and to issue to him their diploma. The board thereupon conferred the degree and issued the diploma. Under this decision no certificate of the regents of the University was required to be filed, nor has it been filed.

PROCEEDINGS OF SOCIETIES.

BROOKLYN PATHOLOGICAL SOCIETY.

Three-hundred-and-fortieth regular meeting, October 13, 1892, the President, Dr. Joshua M. Van Cott, Jr., in the chair.

SCIENTIFIC BUSINESS.

In view of the recent threatening and because of the probability of its appearance in Brooklyn and New York next summer, it was determined to take advantage of the very splendid material now available, by making it the special scientific business of this meeting to consider Cholera Asiatica as follows:

A. Biology, Dr. E. H. Wilson.

1. Methods of collecting material from suspected cases.

2. Methods of handling material in the laboratory: *a.* Bouillon cultures. *b.* Plate and roll tubes. *c.* "Stabs" in gelatine. *d.* Cholera reaction.

3. Biological characters of the spirillum. *a.* Classification. *b.* Morphology. *c.* Cultures—Bouillon, Plate and roll tubes, Agar, Potato, Milk. *d.* Resistance, temperature and chemical.

4. Illustration on Screen.

5. Exhibition of Cultures.

B. Pathology, Dr. Geo. T. Kemp.

The Obituary Committee reported as follows with reference to the death of Drs. Chas. E. De La Vergne and Herbert Fearn:

Whereas, we have learned of the death during the summer vacation of two members of this society, Dr. Chas. E. De La Vergne and Herbert Fearn,

And Whereas, we deplore the loss of two earnest and active associates who were identified with the interests of the society and testified such by their presence and participation in its work,

Be it Resolved, That we hereby express our sorrow at the loss of Drs. De La Vergne and Fearn, not only as members, but as friends and professional brethren.

Be it also Resolved, That these resolutions be spread upon the minutes of the society, a copy be furnished for publication in the Brooklyn Medical Journal and a copy be sent to the relatives of the deceased.

Ezra H. Wilson, M.D., Ch.,
Wm. Maddren, M.D.,
Frederic J. Shoop, M.D.,
} Committee.

Society adjourned.

The three-hundred-and-forty-first regular meeting, Nov. 14, 1892, President Dr. Joshua M. Van Cott, Jr., in the chair.

Dr. J. E. Sheppard read a very interesting paper upon "Pathology of the Mastoid."

Dr. E. B. Dench, of New York, opened the discussion, describing in detail his manner of operating in such cases.

In the course of his remarks, he said he differed from the reader of the paper in one thing,—he thought that in every case the antrum should be opened.

He related one case upon which he operated—man recovered, did very nicely for about two weeks, when he developed a secondary lymphatic abscess. This being removed he was well in a few days.

Another case. Mastoid abscess had broken through the inner tablet of the skull, and the meninges were bathed with pus for two months previous to operation. After the operation he had an attack of erysipelas, but in spite of the unfavorable outlook he got well.

The prognosis in all cases not operated upon should be guarded, and in cases operated upon the earlier the operation the better the prognosis.

Another case: A woman presented with the other symptoms a decided strabismus. On opening the antrum it was found that the abscess had ruptured into the cranial fossa and eight ounces of turbid fluid were drawn off. The patient died twelve hours after the operation.

In another case, the attic, mastoid cells and sinus were all converted by the abscess into one cavity, thus saving part of the operation.

Too much stress cannot be laid upon the strictest antiseptic precautions.

Never undertake an operation for opening the mastoid process without being prepared to enter the cranial cavity, so that if the cranial cavity be already open, or opened accidentally, no special danger need result.

Be sure to get all the cellular part of the mastoid removed to the diplœic bone, the healing is more rapid.

Dr. Prout, in response to the President's request to make a few remarks, said that owing to the lateness of the hour, he would prefer not to enter into the discussion further.

Dr. Mathewson said it had not been his experience that it was necessary in every case to resort to surgical interference.

Dr. Alderton stated briefly his manner of operating with the view of lessening the degree of deformity resulting from operation.

The society went into executive session.

Dr. G. M. Sternberg, Director of the Hoagland Laboratory, will read a paper upon Yellow Fever, illustrated with the lantern, before the Brooklyn Pathological Society, at 356 Bridge Street, Thursday evening, February 9, 1893.

FREDERIC J. SHOOP, M.D.,
Secretary.

BROOKLYN SURGICAL SOCIETY.

A Case of Comminuted Fracture of the Humerus, presented by Dr. L. S. Pilcher, Nov. 17, 1892.

This patient, a man, of about thirty years of age, was admitted to the Methodist Episcopal Hospital in July last, having sustained a comminuted fracture of the shaft of the humerus.

Dr. Pilcher:—At the end of ten weeks no apparent attempt at union had taken place, and there persisted considerable deformity at the point of injury. I accordingly submitted him to operation for the purpose of rectifying the position of the fragments and wiring them together for retention purposes. The operation was done in the usual manner, by a longitudinal incision on the outer side of the arm. When the fragments were exposed it was found there was a loose fragment which had been tilted transversely and was acting as a foreign body between the two main fragments of the humerus. The loose fragment was removed and the other fragments, with a little chiseling, were brought into somewhat of a dovetail shape, so that they overlapped and were held together by two wires upon either side. In this way the bone was, of course, shortened somewhat. The man, having no rise of temperature, after a few days was sent home, with instruction to return for examination. Eight weeks have elapsed since the operation; the primary dressing is still in place, and I desire to submit him now to the inspection of the society. (The dressings were then removed. Firm union of the fragments was found to have taken place, but still not sufficiently absolute to prevent slight bending on the application of considerable force. A sinus, from which a limited amount of purulent discharge had taken place, was present, leading down to the sutures.)

Dr. Pilcher then continued:—A similar case has been under my treatment during the past year, in which I have operated twice for its relief, the first operation being similar to the one that I have detailed in connection with this case, except that there was no such mass of loose bone between the two fragments, as in this case. In that case I made a serration, bringing the one fragment into the other, and holding them together by wires. The operation was unsuccessful. There was no attempt at union following it, and unfortunately, as a part of the original operation, the musculo-spiral nerve was injured. After some time, finding the failure of the first attempt to bring about union of the bone, I subjected him to a second operation, at which time also I found the ends of the musculo-spiral nerve and attempted to bring them together and suture them. This was only in a measure successful. I did not make a resection of the shaft of the humerus, which I believe now would have been best to have done in that case. I contented myself with bringing the ends together with some tension and holding them with sutures, while the ends of the fragments of bone I held together by a plate of steel, about three inches in length and about three-quarters of an inch in width, each end perforated by two screw holes, so that each end was fastened to its respective fragment by two screws which passed through the entire shaft of the humerus, after the method of White, of Philadelphia. At the end of two months, the man having borne well the presence of this steel plate holding the fragments of the humerus together, I removed the plate, but there was not as much consolidation present then as in this case we have examined to-night. Nor was there any return of power in the muscles that were supplied by the musculo-spiral nerve. I continued the immobilization of the part because there was a little stiffening of it beginning to develop. Some four or five months have now passed since the last operation; it has been examined from time to time, and the stiffening has been increasing more and more, until finally there is perfect and absolute repair of the fracture.

I speak of the case in connection with the case now presented to show the possibilities of hope in cases of delayed or non-union of the shaft of the humerus, even in conditions that seem apparently hopeless.

Dr. Wood:—I would like to ask Dr. Pilcher if he hopes for a return of the functions of the musculo-spiral nerve in the second case.

Dr. Pilcher:—I do not expect it at this stage.

Dr. Wight:—I have operated on a large number of cases of this class, by simple incision, by simple excision of the ends without wiring, and have never failed to get, within a few weeks, bony union, and I don't know that I shall resort to wiring until I fail with so simple a procedure as that.

Dr. Wood:—I can mention a case which I was able to follow out to a most satisfactory termination, where there was delayed union and paralysis of the musculo-spiral nerve. It was in May, 1890, that I first saw him, with a recent fracture of the humerus about the middle, and a fracture of the forearm. I put up the arm in plaster-of-Paris, immobilizing the shoulder joint, the elbow joint and the wrist. At the end of some eight weeks the dressings were removed, and there was still a rocking at the point of fracture of the humerus. The union in the bones of the forearm was firm, but there was a paralysis of the muscles supplied by the musculo-spiral nerve. After a time the union began to be firmer, but the paralysis did not improve, and after a few months' use of electricity, it was determined to cut down upon this portion of the humerus. The nerve was found imbedded in the callus and the ends of the nerve were brought out, and in bringing them out the nerve was so far compressed that it broke in two. It was then sutured, the entire wound closed, and the arm immobilized. By six weeks after that, firm union of the bone was present, but the musculo-spiral nerve was unrelieved.

In that condition he left the hospital in December, 1890, having been injured in May of that year. When he left the hospital he had a firm bone, but complete paralysis. Some few months afterwards, I met him as a deck-hand on a Staten Island ferry-boat, and found that function of the musculo-spiral nerve had returned.

Dr. Pilcher:—I would like to add, that it is evident that in this case now before the society, the wire is an irritant there, and that a fistula has been established, and it will undoubtedly be necessary to expose the wires and remove them, and I shall probably do that at an early day.

BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

Meeting of June 3, 1892.

The President, Dr. S. Sherwell, in the chair.

I. Dr. Raynor presented a case of dysidrosis, located on the face of a woman. The lesions appeared every summer, the present attack beginning three weeks ago.

Dr. Sherwell said the disease was also known as pompholyx and chiero-pompholyx, but he considered dysidrosis much to be preferred.

The disease was often to be seen between the fingers and then was usually attended with some surrounding inflammation and caused considerable distress from the attendant itching. It occurred almost always in people who were run down in health, and was most frequent in hot weather. He has generally found it amenable to treatment, and has found an anti-rheumatic plan of treatment with colchicum, alkalies, etc., beneficial; also the regulation of the bowels, diet, etc.

Locally, such remedies as promoted absorption and were astringent in character were beneficial. In one case under his care the patient had been continually dipping his hands in a carbolic acid solution, which gave some relief, but an anti-rheumatic plan of treatment was followed by permanent good results.

Dr. Raynor.—The treatment in this case will be anti-rheumatic with alkalies, and locally, mercury bi-chloride in emulsion of bitter-almond.

II. Dr. Winfield presented a case for diagnosis. Patient, a male, had syphilis many years ago. The present eruption appeared four or five weeks ago, then disappeared for two or three days, returned and is now distributed over the entire body, is papular and bright red in color. The man is phthisical, coughs and has been losing flesh. He has been taking medicine for the past four weeks, prescribed by an outside physician.

The eruption was first thought to be a heat eruption, but the papules were larger, deeper, and more acuminate than occur in a heat eruption, and were more marked on the hairy portions of the body, except on the bearded portions of the face. There were no indications of recent specific disease, but he has the remains of suppurating buboes. The diagnosis of an iodide of potassium eruption was made.

It was subsequently discovered by reference to the prescription books of the druggist who compounded the medicine, that the patient had been taking a mixture which contained potassium iodide ℥ iij in ℥ ij.

III. Dr. Holsten presented a case of favus of the scalp in a child. The disease had existed for over nine years. Her grandmother and an uncle were similarly affected, but the rest of the family were free, though they used hair-brushes, combs and towels in common. The case showed that not every person was suscep-

tible of contracting the disease, many skins being able to successfully resist any invasion of the fungus.

IV. Dr. Morton presented a woman who had probably contracted syphilis thirteen years ago, though no clear history was obtainable; still, she had had miscarriages, alopecia and headaches. Over the knees were scars of typical syphilitic ulcerations, which had been present two years ago. At present there are three semi-solid swellings on the left leg, each being distinct from the others. They are sharply defined, movable with the skin, which is erythematous, over them. The lowest feels softer in the centre than do the two upper. Patient states that the lower swelling has been spontaneously growing smaller. Her general health is good, is not costive, no headaches.

The diagnosis lay between abscess, gummata and nodules of "erythema nodosum" on a syphilitic patient, of which he considered the latter to be correct.

Dr. Smylie read a paper on the "Treatment of Chronic Urethritis," and also exhibited an instrument he had devised, consisting essentially of a hollow cylinder, or metal sound, having an opening near the tip. To the handle is screwed a collapsible box containing the medicament, which is then forced through the calibre of the sound and is thus brought directly in contact with the diseased mucous membrane.

Dr. Raynor mentioned a case of a patient who had had a gonorrhœa of six or seven months' duration and had been treated with sounds, injections, etc., but without improvement. On examining with the endoscope, there was found, about two inches from the meatus, a patch of granulations about half an inch in length. Lugol's solution and listerine were applied to this by means of a cotton swab wrapped around an applicator, but, on withdrawing the applicator the swab was accidentally left behind. It remained in the urethra nearly all day and the patient reported being very much improved. A second application was made and the swab left purposely in the urethra. This completed the cure of the case. Another case in which the same plan of treatment was pursued was very much improved.

Meeting of October 7, 1892.

The President, Dr. Sherwell, in the chair.

I. Dr. Holsten presented a case of papulo-tubercular syphilide, in a woman aged forty-five.

Patient has had eleven children, the last born two years ago. Soon after birth it became covered with large, watery blisters and only lived one month. The child born previously to this one is now living and is eleven years of age. No miscarriages before or since. Her husband is a healthy man, as far as she knows. In December, 1891, she had a scratch on her privates, which under the local application of a carbolic acid wash soon healed. Never took any medicine either at that time or before. The eruption is localized to the backs of hands and back and front of wrists, forming on these situations a dark red, characteristic, grouped papulotubercular syphilide. On the leg were lesions of scaly papules; none on the rest of the body. The eruption began about the middle of June, and is now in about the same condition as when first seen on August 11th. The patient, though under treatment, is very negligent in taking her medicine.

Dr. Holsten stated that he regarded the eruption as being one of the later manifestations of syphilis, an early tertiary eruption, and did not think the lesion on the genitals mentioned in the history had any connection with the present eruption.

II. Dr. Holsten presented a case of what he considered analogous to those described by Crocker in his text-book as dermatitis repens.

The patient, a woman thirty-two years of age, and occupied with ordinary household duties. The eruption began in June, 1891, as vesicles between the fingers of the right hand, these ran together, broke down, and when first seen on July 26th, there were several patches around the base of the fingers on both hands of an eczematous character. The epidermis was destroyed, the exposed rete was of a bright red color with drops of serum on its surface. Around the edge of the patches the epidermis was undermined and the constant tendency of these patches was to extension by this creeping, undermining process. He considered them as a form of eczema and probably due to a parasite.

The treatment had been a local one of a two per cent., afterwards a five per cent. ichthyol ointment, but without success. It was now proposed to apply a ten per cent. lactate of lead ointment as recommended by Crocker.

Dr. Holsten also mentioned a case with similar lesions he had treated a year ago.

The patient, a young man was a bartender and had his hands frequently in water. The lesions began around the last phalanx of almost all the fingers. The rete was exposed and exuded serum constantly.

At the proximal border of the lesions was an edge of undermined, slightly soggy epidermis, and the disease crept up the fingers by the gradual breaking down of this undermined border. Notwithstanding that the patient gave up his occupation and devoted his entire time to the care of his fingers, the disease continued to extend. Ichthyol in small, then large percentages was used, but without effect. The case was then lost sight of and the ultimate result is not known.

III. Dr. Winfield presented a man, twenty-two years of age, who four and one-half months ago had a small sore on his penis; it was hard and indurated. A dusting powder of aristol and calomel was applied to it, and it healed in three weeks. Seven weeks after a universal macular eruption of syphilis appeared. Proto-iodide, $\frac{1}{8}$ grain, was taken for ten days, when becoming slightly salivated, and a blue line appearing upon the gums, this was stopped; the eruption also disappeared, having lasted only ten days or two weeks. He was then given $\frac{1}{25}$ grain tablets of bin-iodide, three times daily for a week; the second week, the dose was increased to two tablets, and the third week to three tablets, when salivation was again produced. During all this time no eruption was present and the enlarged glands had decreased in size.

The last medicine was taken five days ago. On the same day the patient took a bath and immediately noticed an eruption all over the body. Coincident with this were symptoms of a heavy cold, running of nose, temperature elevated about two degrees, headache and general pain. No congestion of the conjunctiva, no cough. The first eruption was decidedly a roseola in character, but this second eruption was macular and tended to group itself similarly to a measles eruption. Mucous patches have recently been in the mouth, but are now getting better. The patient is of nervous temperament, a mason by occupation and exposed to the weather.

Dr. Winfield considered the eruption to be a recurrent syphilide, though its appearance five days ago suggested very strongly a measles.

IV. Dr. Winfield mentioned a case of a fungating growth of the testicle.

Patient was much run down, had an enlarged nodular liver, and looked as though he might be suffering from cancer. In his seventeenth year he had a sore on his penis, but no other symptoms of syphilis The diagnosis of syphilis, tuberculosis and cancer was considered, and an operation which was thought of was deferred

and the patient put on $\frac{1}{12}$ grain of bichloride, together with five grains of iodide of potassium. This having no effect the iodide was increased until he was taking 80 grains daily, when the testicle grew smaller and the liver also decreased in size. The iodide was then increased until he took 125 grains per day. He was dismissed from the hospital very much improved. Becoming worse again he was treated with iodide until he took 350 grains daily and is now entirely well.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge Street, on Tuesday evening, December 20th, 1893, at 8 o'clock.

The President, Dr. Z. T. Emery, in the chair.

There were about 100 members present.

The minutes of the November meeting were read and approved.

The council reported favorably upon the names of Drs. Willard Parker Bowser, S. Paul Truex, and Albert Brinkman, and recommended that they be elected to membership.

The Council also reported favorably upon the application of Dr. Charles E. Perkins, for Corresponding Membership, and recommended he be elected a Corresponding Member of the Society.

ELECTION OF MEMBERS.

The following were declared elected to membership :

Drs. Frederick C. Holden, George H. Pierce, John W. Moore, George Conterno, Theo. E. Townsend, W. A. Berendsohn, Louis L. Nichols and H. J. Knapp.

Dr. Walter B. Chase introduced Dr. J. Mann, a member of the Queen's County Medical Society, and presented his credentials to the Society. The Chairman extended the hospitalities of the Society to Dr. Mann and requested him to participate in the discussions.

The following propositions for membership were presented :

Drs. George Maddock, Macon street, N. Y. University, proposed by Dr. Geo. D. Holsten; Dr. J. Kortright.

Herbert M. Clapp, 100 Clymer street, University of Vermont, 1890; proposed by Dr. J. H. Raymond; Dr. Geo. McNaughton.

Wm. Kinne, 46 Fourth street, Bellevue Hosp. Med. Coll., 1891; proposed by Dr. Geo. C. McNaughton; Wm. Browning.

Homer E. Fraser, 29 Lafayette avenue, Bellevue Hosp. Med. Coll., 1891; proposed by Dr. Geo. McNaughton; Dr. Wm. Browning.

SCIENTIFIC BUSINESS.

Dr. Frank E. West presented the first paper of the evening entitled, "Note on the Therapeutics of Certain Modern Antipyretics."

Discussion by Drs. Conklin, Jewett, Evans, Emery, Hutchinson, Bristow, Van Cott and Mosher.

Dr. Geo. R. Fowler presented the second paper, entitled "Wound Fever and Surgical Antipyresis."

Discussed by Dr. Maddren.

NEW BUSINESS.

Dr. William Browning offered the following proposed amendment to the By-Laws to be voted on at the annual meeting:

Amendment to the By-Laws to be known as Chapter 9, Section 2, in the existing paragraph of that Chapter to become Section 1.

"Section 2. No sale, exchange, gift, or other disposal of any of the medical works of the library—duplicates alone excepted—shall be made without the formal consent of the Society, one month's notice of such proposition having previously been given."

NOMINATION OF OFFICERS FOR THE ENSUING YEAR.

The following officers were placed in nomination:

President, Dr. J. C. Shaw; vice-president, Dr. Jos. Hunt and Dr. Joel W. Hyde; secretary, Dr. David Myerle; asst.-secretary, Dr. H. B. Delatour, and W. C. Braislin; treasurer, Dr. Chas. N. Cox; librarian, Dr. Wm. Browning; censors (5), Wm. M. Huchinson, C. F. Barber, Joel W. Hyde, Geo. E. Law, E. H. Bartley, Herman Bender, Arnold Stub, J. M. Van Cott, Jr., Reuben Jeffrey, J. W. Fleming, Geo. McNaughton; trustee (one vacancy), Dr. Z. T. Emery and Charles Jewett; delegates to State Medical Society (6), Drs. Reuben Jeffrey, J. M. Winfield, H. C. McLean, H. R. Price, C. F. Barber, Henry Fairbain, Frank Baldwin, Geo. E. Law, J. M. Van Cott, Jr., and J. W. Fleming.

On motion the meeting adjourned.

W. M. Hutchinson,
Secretary.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

DISEASES OF THE EYE. A Hand-book of Ophthalmic Practice. By G. E. de Schweinitz, M.D., with over 200 fine woodcuts, many of which are original, and two chromo-lithographic plates. Philadelphia: M. B. Saunders, 1892; pp. 644. Price, $4.

This, the latest text-book on ophthalmology, is a handsomely-printed volume of convenient size and neat appearance. Those who would ask if another such text-book be really required to supplement the very excellent ones so recently published, may find their answer in perusing this. It is clearly written, explicit, and gives the principles which govern ophthalmic practice of to-day in a manner which shows its author to be familiar with the needs of students and therefore of practitioners, for the latter naturally turn first to their old text-books in time of need. The subject matter is conveniently arranged and comprehensively treated. The chapters on general optical principles, the theory and use of the ophthalmoscope, normal and abnormal refraction, the mechanism of diplopia and the causes of squint were written by Dr. James Wallace, and show him to be thoroughly conversant with the subject. His style is, however, somewhat concise, and at times might prove confusing to a beginner, as when he says that rays of light diverging from the principal focus of a convex lens, after passing through that lens, "converge at an infinite distance." In speaking of the indirect method of ophthalmoscopic examination, the statement is made that in myopia the convex lens usually employed may be dispensed with in the higher grades, "though it is still an advantage because it increases the size of the image." Those who are familiar with the use of the ophthalmoscope will of course see that the area of the retina included in the ophthalmoscopic picture must be here meant, but to the student who is not quite sure of his ground such statements are very misleading. The chapter on the external examination of the eye is a very good one, and in it is given a very complete schedule which may be followed wholly or in part. Here, as elsewhere in the book, stress is laid upon the importance of a recognition of the general bodily conditions. The various instruments and manipulative procedures necessary to such external examination are clearly described, and more recent aids are not omitted, such as the use of fluorescein for the detection of foreign bodies or corneal ulcers. The methods of testing the extra-ocular muscles are very clearly given, and the terminology proposed by Stevens for defects in the balance of such muscles adopted. But little is said of the ophthalmometer of Javal and Schiotz, so much lauded at present, beyond a description of the instrument. It is, however, one which is scarcely likely to be found outside the office or clinic of the specialist. The use of a mydriatic to reveal latent refractive errors is advised up to the age of fifty. In correcting errors in children too young to read, dependence is placed upon the ophthalmoscope and retinoscopy, but no preference is expressed. The different theories of the development of myopia are clearly given, and for young people with good vision the full correction of the myopia when moder-

ate (under 5 D.) is advised. The use of fully correcting glasses for everything except close work is recommended for myopia less than 8-10 D. The chapter on refraction closes with some valuable hints on the verification of the accuracy of glasses as furnished and the proper adjustment of spectacles, a subject to which, as a rule, far too little attention is given.

The chapters on diseases of the eyelids, conjunctiva, cornea and sclera are excellent. The clinical pictures are carefully drawn, and in treatment not only the older and well-recognized methods but also more recent suggestions are considered. In general, however, there is a lack of expression of the author's individual expression or preference. Follicular conjunctivitis is treated as distinct from trachoma, the former being "characterized by tumefied lymphatic follicles" and the latter by the "development of trachomatous nodules which should be regarded as new formations." In the operative treatment of trachoma squeezing out the granulations is favored rather than grattage, excision of the fold or the use of the galvano-cautery. Pyoktanin finds little favor except in suppurative disease of the tear passages. In perforating ulcers of the cornea with extensive prolapse of iris, after the ordinary efforts at reposition have failed, the author recommends excision of the prolapse in recent cases with the use of a conjunctival flap to cover the opening, a method suggested by Pinto.

The diseases of the iris, ciliary body, choroid, retina, optic nerve, vitreous and lens are clearly and methodically considered. As a rule the general features of a disease, both pathological and clinical, are given, and then the more special forms with the treatment appropriate to each. A very valuable feature is the extensive reference made to the more general bodily condition causing or accompanying the ocular disease, and the relations of ophthalmology to general medicine are constantly kept in view in the treatment advised. The claim is made that operative treatment is necessary in practically all cases of glaucoma to check the disease. While this is unfortunately only too often the case, the experience is not so uncommon that the myotics are of permanent benefit. Iridectomy is the operation advised, but little reliance being placed upon sclerotomy, a good enumeration of the essentials of such an iridectomy being given. Both eyes should, in the author's opinion, be bandaged after the operation, that on the operated eye to be retained until the restoration to the anterior chamber. The prophylactic use of eserine in the non-operated is recommended. The chapters on the various forms of amblyopia are excellent, and the diagnostic aids to localization of the lesion in hemianopsia are clearly given, including the more general symptoms of hemianæsthesia, hemiplegia and ataxic movements. The anomalies of the ocular movements, the diseases of the lachrymal apparatus and those of the orbit are next considered, and the book closes with a description of the technique of the operations ordinarily performed about the eye. This chapter begins with explicit directions as to antisepsis, the cleansing of instruments, preparation of the patient, etc. As elsewhere in the book there is here a noticeable avoidance of expression of individual opinion. The different methods are described and the choice left to the reader. In iridectomy no mention is made of any other instrument for making the section than the angular keratome, whereas in many cases the Graefe cataract knife may prove the more manageable instrument. A bandage is advised after cataract as after iridectomy. Graduated tenotomes are described, but the author says "there seems little doubt that a good deal

of injudicious 'snipping of the tendons of the ocular muscles' has been practiced."

On the whole the book is one of the best of its scope, and the author is to be congratulated on the excellence with which his purpose has been carried out. May its success equal its merits.

RICHMOND LENNOX.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION, 1892. Philadelphia: M. B. Saunders, 1892; pp. 176, price, $1.50.

The volume before us contains twenty-seven papers which were read at the Eighth Annual Meeting. The subject which seems to have most engaged the attention of the Society was influenza, the history of epidemics of this disease in Philadelphia, Chicago, St. Louis, New York and Savannah being recorded. Whooping-cough, phthisis is its various phases, gymnastic exercise in chest diseases, effects of climate on diseases, and other allied topics were presented and discussed. The membership of this Society, including as it does many of the most experienced practitioners in the United States, is a sufficient guarantee of the value of the opinions expressed in both the papers and discussions.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1892: Published by the Society, pp. 540.

This volume contains no less than forty-eight papers, or, as they are technically called, "Communications," which treat of topics which are at the present day most discussed, as nephrotomy, intravenous saline infusion, drainage in the treatment of diseases of the endometrium, infliction of the death penalty by means of electricity, etc. The following were communicated by Brooklyn physicians: "The Crossed Suture," by George Ryerson Fowler, M.D.; "Intravenous Saline Infusion for Relief of Shock and Acute Anæmia," by Lewis S. Pilcher, M.D.; "Two Successful Cases of the Conservative Cæsarean Section," by Charles Jewett, A.M., M.D. Among the obituary notices is one of Christopher V. Barnett, M.D., by Walter B. Chase, M.D. A full list of the names and addresses of the members of all the County Societies is given. It will be remembered that at this meeting Brooklyn was especially honored in the election of Dr. Lewis S. Pilcher as President of the Society.

THE MEDICAL AND DENTAL REGISTER-DIRECTORY AND INTELLIGENCER OF PENNSYLVANIA, NEW JERSEY AND DELAWARE (1892 Edition); pp. 424; Price, by mail, $1.25. George Keil, Publisher, 306 Chestnut Street, Philadelphia.

This book contains a complete list of the National and State Medical and Dental Associations, with their officers and dates of meeting, Medical and Dental Colleges of the United States, and other very valuable material, Medical and Dental Laws, Hospitals, Homes, etc., etc., also the list of Medical and Dental practitioners, with their school and year of graduation, post-office addresses, and office hours.

A System of Practical Therapeutics. Edited by H. A. Hare, M.D., vol. iii., Philadelphia, Lea Brothers & Co., 1892, pp. 1352.

One of the most commendable features of the System of Therapeutics is the promptness with which the three volumes which compose it has been issued. There are few works of equal magnitude which have been issued within a twelve-month. Volume III. treats of diseases of the skin, nervous system genito-urinary apparatus, eye and ear. The contributors are J. Chalmers Da Costa, M. Allen Starr, Landon Carter Gray, Wharton Sinkler, R. L. Dickinson, H. A. Kelly, S. M. Burnett, Samuel Sexton, C. H. Burnett and others.

One of the most interesting and instructive articles is that of Dr. R. L. Dickinson on "Diseases of the Uterus." In it he discusses the effects on the uterus, of improper dress and regards this as one of the important factors in the production of uterine diseases. Those who are interested in the prevention of this class of diseases (and what physician should not be) will find many valuable hints and suggestions directed to this end. The illustrations are admirable, both in conception and execution.

There is no more troublesome condition which physicians are called upon to treat than insomnia. Under the title "Disorders of Sleep," Dr. Landon Carter Gray discusses this subject in a most practical way. Night-terrors and somnambulism are treated in the same article.

"Diseases of the Broad Ligaments, Tubes and Ovaries" is the subject of an article by Dr. Howard A. Kelly. These diseases are handled by him in his usual clear and forcible way. As a whole the volume is fully up to the high standard of the other volumes and will well repay a thorough examination and study of its contents.

Genito-Urinary and Venereal Diseases. By Charles H. Chetwood, M.D. Being volume 8 of the Students' Quiz Series, 178 pages, $1.00: Philadelphia, Lea Brothers & Co., 1892.

This book, designed especially for students, is arranged in a form of questions and answers. While the majority of teachers in conducting a quiz prefer to formulate their own questions, the system is of undoubted advantage to the student who is preparing for examination. While the answers are, in the main, clear and sufficiently concise, the subject, at times, would be more readily understood and better impressed upon the reader's mind were the statements presented in shorter sentences. Such a change would improve, among others, the answers to the questions. "Has simple urethritis any period of incubation?"

Eight grains of sulphate of zinc to the ounce of water forms an injection that can seldom, if ever, be used to advantage in urethritis. The student and young graduate are prone to err on the side of too strong injections, and the author would have done a better service to the patients of the coming doctor had he stopped considerably short of this maximum strength.

In considering the development of stricture, the term "lymphatic material" would seem to be an undesirable one. That stricture does not, as a rule, commence to form until a urethritis has been present for eight to twelve months hardly comports with modern ideas upon that subject. In Otis' rule for estimating the normal calibre of the urethra the word diameter appears where circumference ought to be used.

We would question the statement that chancre sometimes first appears as a "hard pustule."

The answer to the question, "What are the non-venereal affections of the genito-urinary system," would be improved if made more definite. But many of the above are minor faults. On the whole, the book is well arranged, and will prove of value to the busy student. H. W. RAND.

A NEW PRONOUNCING DICTIONARY OF MEDICINE. By John M. Keating, M.D., LL.D., and Henry Hamilton, M.D., Philadelphia: W. B. Saunders, 1892; pp. 818; Price $5.00.

One of the most interesting portions of the work before us is the introduction, in which the author quotes from letters received from professors of Latin in the various universities of this country, in answer to his inquiries in reference to the pronunciation of certain medical words, such as peritonitis, bronchitis, gynæcology, etc. It has become a popular saying that doctors cannot agree. It is interesting to observe that the disagreement among these learned professors is as marked as that in any medical question we have ever heard discussed. The consensus of opinion seems to be that medical terms have become so anglicized that they should be pronounced according to the best usage of the best English writers and speakers.

It would be strange if some faults could not be found with the book, and some defects pointed out, but we have no desire to seek for short-comings in the first edition of a work of such magnitude. The authors have done the profession a great service, and the trifling mistakes which have been made are almost inseparable from the undertaking. For our own part we thank them for a very helpful contribution to medical literature.

BOOK ON THE PHYSICIAN HIMSELF, AND THINGS THAT CONCERN HIS REPUTATION AND SUCCESS. By D. W. Cathell, M.D. New Tenth Edition (Author's Last Revision). Thoroughly revised, enlarged and rewritten. 348 pp.; Price post-paid, $2.00, net. Philadelphia: The F. A. Davis Co.

This work is too well and too favorably known to need any commendation. The only trouble is that it does not reach the younger men of the profession sufficiently early in their career to enable them to escape the pitfalls, and to overcome the obstacles which are in the path of every physician. If a copy were handed to every graduate with his diploma and the precepts it inculcates were followed, the lives of the members of the profession would be happier, and more prolonged, and when ended, it would not be to leave families barely supplied with the necessities of life.

THE USES OF FEVER: THE DANGERS OF ANTISEPTICS IN TYPHOID FEVER. By J. H. Musser. Reprint from Medical News.

GRAVE FORMS OF PURPURA HÆMORRHAGICA. By J. H. Musser. Reprint from Transactions of Association of American Physicians.

From his experience the author draws the following conclusions:

FIRST.—Excessive hæmorrhage from one point may be the only manifestation of purpura.

SECOND.—Cases of purpura may simulate diphtheria.

THIRD.—Hæmoglobin may be much reduced in purpura.

FOURTH.—Cases of purpura and hyperpyrexia as manifestations of rheumatism may occur conjointly.

WHOOPING-COUGH; ITS MANAGEMENT; ITS CLIMATIC TREATMENT. By J. H. Musser. Reprint from Climatologist.

The author regards reinfection as the cause of the grave and protracted or relapsing cases of whooping-cough, and to prevent this advises that the discharges should be disinfected, as also clothing of patient, etc. He regards a change of climate as of great value, and speaks of the difficulty of finding accommodation for such patients at the sea-shore and elsewhere. He suggests that there should be a central bureau of registration or a directory which would keep a list of such places.

PROGRESS OF CYSTOSCOPY IN THE LAST THREE YEARS. By Willy Meyer, M.D. Reprint from N. Y. Medical Journal.

A most interesting presentation of all that is latest in cystoscopy with eleven conclusions to which the writer's experience has brought him, together with a valuable bibliography of the subject since 1887.

TUBERCULOUS ULCER OF THE STOMACH. By J. M. Musser, M.D. Reprint from *Philadelphia Hospital Reports*.

Contains a case in which this rare condition existed, with a bibliography of eighteen references.

LIMITATIONS AND POWERS OF THERAPEUTICS. By J. H. Musser, M. D. Reprint from University Medical Magazine.

The author gives, first, an outline statement of the science of medicine; second, deductions as to therapeutic measures derived from our scientific conception of pathology; and finally a few outlines of value. He truly says, that the man who has not proper ideas of the processes and causes of disease can only practice medicine in the same haphazard fashion that the conscientious charlatan dispenses his ware.

APPARATUS FOR COLLECTING WATER FOR BACTERIOLOGICAL EXAMINATION. By Samuel G. Dixon, M.D. Reprint from The Times and Register.

A description of an instrument constructed for the purpose of collecting water, transporting it to a laboratory for examination, and discharging it in any given quantity into a culture medium, without exposure to the atmosphere.

OPERATION FOR THE REMOVAL OF THE GASSERIAN GANGLION. By E. Lamphear, M.D. Reprint from International Journal of Surgery.

The patient was a man who had suffered for eighteen years from trigeminal neuralgia which had resisted all medication. The operation was performed by opening the base of the skull through the pterygoid region, and was eminently successful.

When Shall We Trephine in Fractures of the Skull? By E. Lamphear, M.D. Reprint from Kansas City Medical Index.

The author offers nine rules for trephining in injury of the skull and gives a number of cases which illustrate the principles he lays down.

The Diseases of the Stomach. By Prof. C. A. Ewald, Berlin. Translated by Morris Manges, M.D., New York.: D. Appleton & Co., 1892.

The various diseases of the stomach are treated in a series of twelve lectures, there being in addition some thirty illustrations, many of which are from cases under the author's care. The translator has been zealous in some of the foot-notes, which he has added, to call attention to the work of Americans in this field, mention of which the author in the general text has at times omitted.

The work treats of all forms of diseases of the stomach, both functional and organic. It has many new terms. A most admirable one is the use of the word *cardia*, to designate the upper end of the stomach.

Many pages are given to a consideration of the strength of stomachic digestion. Accounts are given of acidity in all its various forms. Tests for showing stages in digestion are explained. This of course is in keeping with much of the work which many of the physiological chemists have of late been doing.

The more serious organic diseases are discussed in six of the lectures. After one has read long detailed accounts of familiar stomach ailments, such as chronic gastric catarrh, to which fifty pages are given, considering every form of the disease, there is certainly an anticipation of a brilliant discourse on treatment. But it does not materialize. The old remedies and the old methods so familiar, are all presented. Therapeutically there is but little in the book that is new. There is given elsewhere a more detailed account of some features of the work. HENRY CONKLING.

Obstetrics A Manual for Students and Practitioners. By Charles W. Hayt, M.D.; Philadelphia : Lea Bros. & Co.

This manual of 190 pages is one of a Quiz Series for students. It is made of questions and answers after the usual fashion of Quiz Compends. Unfortunately there is little in the book to commend. Many of the questions are badly framed, the answers loosely worded and frequently inaccurate. To cite a single illustration, the definition of ascites (p. 49) amounts to saying that it is a cellular infiltration of the tissues of the extremities and other parts of the body which may extend to the pleura or the peritoneum. This is a somewhat extreme example of errors that are frequent throughout the book.

Materia Medica and Therapeutics. By L. F. Warner, pp. 223.

Practice of Medicine. By E. F. Doubleday and J. D. Nagel, pp. 221.

Gynæcology. By B. W. Bratenahl and S. Tousey, pp. 211.

Histology, Pathology and Bacteriology. By B. S. Beach, pp. 165.

These four volumes belong to the Students' Quiz Series and are published by Lea Brothers & Co. at the uniform price of $1.00. They serve the purpose for which they were intended, to enable the student in the shortest possible time to review the subjects on which they treat. The form of question and answer in which they are printed gives a directness and pointedness which can be obtained in no other way so well.

Memoranda of Poisons. By T. H. Tanner, pp. 177; 1892; Phila.: P. Blakiston, Son & Co. Price 75 cents;

This popular manual, which has now reached its seventh edition, contains considerable new matter, and some important changes have been made, as, for instance, the substitution of modern chemical nomenclature. It will always be a standard reference book, and we presume few medical libraries are without it.

Hernia in Infancy and Its Treatment. By W. B. De Garmo. Reprint from Arch. of Pediatrics, April and June, 1891.

An instructive paper in which the subject of trusses, their uses and abuses, is most intelligently discussed.

Influence of Sea-Voyaging Upon the Genito-Uterine Functions. By J. A. Irwin, M.D.

A discussion of a subject which has engrossed the attention of most gynæcologists, but which is, notwithstanding, still unsettled. Dr. Irwin regards ordinary sea-sickness as essentially a disturbance of equilibration, the initial lesion starting within the semicircular canals, and that hyperæmia is a main factor in the general syneresis of nervous and functional derangement. Menstrual disturbances are almost entirely attributable to the motion of the vessel; very little to coincident psychical impression, and still less to any inherent quality of sea-air, and that the constant tendency of this motion is to determine an increased blood-supply to the pelvic organs.

On the Treatment of Flat-Foot. By Walter C. Nord, M.D. Reprint from Annals of Surgery, November, 1892.

The writer describes the various methods of treating this affection, and urges the importance of its early recognition. In any case of pain in the feet and ankles not easily explained he counsels a careful examination, and that the physician should not be satisfied with giving a prescription for rheumatism, and an assurance to his patient that "the pain will wear itself out."

HABITUAL POSTURES OF SCHOOL CHILDREN. By Eliza M. Mosher, M.D. Reprint from Educational Review, November, 1892.

The influence of habitual postures upon the shape and health of the body has for a long time been a special study of the author, and those who are in search of facts will find them most clearly and interestingly presented in this paper. The text is all-sufficient, but its practical application is aided by the illustrations, which are photographs from life. We are glad to note that the writer places a considerable share of the responsibility upon those who employ large numbers of people, and upon architects who plan public buildings, to make the surroundings of those for whom they are responsible as hygienic as possible. The advice as to chairs and desks is based on experience and a knowledge of physiological laws.

PUBLIC BATHS AS A PREVENTION OF DISEASE. By Charles H. Shepard, M.D. Reprint from International Medical Magazine, October, 1892.

This essay gives a brief history of baths from ancient to modern times, and is a plea for the establishment and maintenance of Turkish baths at public expense, and under medical supervision.

SULPHUR FUMIGATION IN CHOLERA. By J. H. Raymond, M.D. Reprint from N. Y. Medical Journal, Sept. 24, 1892.

This article demonstrates the efficacy of sulphur fumigation in the destruction of cholera germs.

MEDICAL MANHOOD AND METHODS OF PROFESSIONAL SUCCESS. By C. H. Hughes, M.D. Reprint from Alienist and Neurologist.

Valedictory address to graduating class of 1892 of Marion Sims College of Medicine.

NOTE ON THE HYSTERICAL CONCOMITANTS OF ORGANIC DISEASE. By C. H. Hughes, M.D. Reprint from Alienist and Neurologist.

The author believes that hitherto unsuspected organic disease of the nervous system may give rise to hysterical symptoms.

ACCIDENTS AND EMERGENCIES. By Charles W. Dulles, M.D. Fourth edition, thoroughly revised and enlarged. Philadelphia: P. Blakiston, Son & Co.; 1892; pp. 154. Price $1.00.

A very useful book for physicians to recommend to their patients. If every family were provided with this little manual, and some member thereof with a cool head and a steady hand were familiar with its contents, much of the needless excitement which accompanies every accident or injury would be avoided. We would suggest to the author the addition of a 4 per cent. solution of cocaine to his emergency case, with instructions to his readers to instill a few drops into the eye whenever a foreign body lodges there. The relief from pain and the ease with which the body can be removed are most pronounced. We never leave the city on a railroad trip without a bottle of this solution and a dropper, and we have been able to act the part of the Good Samaritan on more than one occasion.

MISCELLANEOUS.

INTERNATIONAL MEDICAL ANNUAL.

E. B. Treat. Publisher, New York, has in press for early publication the 1893 "International Medical Annual," being the eleventh yearly issue of this extremely useful work.

A glance at the prospectus gives promise that the 1893 issue will be better than any of its predecessors.

There are thirty-eight distinguished specialists on its corps of editors, carefully selected from among the most eminent physicians and surgeons of America, England and the Continent.

It arranges in a practical way for ready reference what is worth preserving of the year's medical literature, together with a number of important papers specially written; and will contain over 6000 references to diseases and their remedies; many illustrations in black and colors being used where helpful in explaining the text.

The service rendered by this work, giving the year's progress in medicine and surgery so conveniently and at so low a price ($2.75), cannot be overestimated.

Altogether it makes a most desirable, if not an absolutely necessary, investment for the practitioner.

THE KINGS COUNTY MEDICAL ASSOCIATION.

The February meeting of this Association will be occupied by the President. Dr. J D. Sullivan, who will read a paper on "Clinical Observations on Appendicitis, with a Report of Cases Illustrating Different Forms of this Disease."

All regular practitioners of medicine and medical students are invited to attend the meetings and participate in the discussion, and to remain as guests of the Association after the meeting.

AMERICAN TEXT-BOOK OF SURGERY.

The "American Text-Book of Surgery" edited by Professors Keen and White, of Philadelphia, and published by W. B. Saunders, which has only been issued a few months, is already a phenomenal success. It has been adopted as a text-book by forty-nine of the leading medical colleges and universities. Nearly five thousand copies have been placed in physicians' libraries, and every indication points to a sale of at least as many copies more in the next six months.

Dr. Nicholas Senn, of Chicago, is now preparing a "Syllabus of Lectures on the Practice of Surgery" arranged in conformity with the "American Text Book of Surgery" which will be a valuable aid to all who have this book.

W. B. Saunders announces that he has in preparation, for sale by subscription only, an American text-book of the medical and surgical diseases of children.

AMERICAN PHARMACEUTICAL ASSOCIATION.

The committee on membership of the American Pharmaceutical Association is anxious to present, at the Chicago meeting next August, a complete list of names of the reputable pharmacists in the United States and Canada. Blank applications and full information regarding fees, benefits of becoming a member, etc., can be obtained by addressing the chairman of the committee, Dr. H. M. Whelpley, 2342 Albion Place, St. Louis, Mo.

ON THE DIURETIC AND UROPOIETIC ACTION OF THE ALKALOIDS OF COD LIVER OIL.

BY M. J. BOUILLOT, at the French Academy, Séance of Nov. 15, 1892.

The remarkable studies of M. M. Gautier and Mourgues on the alkaloids of cod liver oil, show us definitely the nature of the principles to which are due, to a very great extent, its medicinal properties.

The physiological experiments made by these authorities on animals prove that the alkaloids referred to act:

1st. As stimulants of nutrition and of the circulation.

2d. As diuretics.

In presence of such remarkable results explaining the therapeutic action of the oil, I have thought it possible to utilize in medicine the alkaloids themselves; besides, it appeared to me interesting to inquire if the effects observed by M. M. Gautier and Mourgues, in their experimentation on animals and especially its action as a stimulant to the appetite and diuresis, were noticeable when exhibited in a human being.

Guided by this idea, I prepared some of these same alkaloids but in the present case I have not attempted to isolate them, and I have administered, therefore, the whole of the active principles of cod liver oil as a medicinal unit.

M. Chapoteaut, in 1885, was the first to demonstrate that apart from the oil considered as an assimilable fat, there existed, in variable proportions, a number of alkaloids, etc., and these he removed from cod liver oil in the form of morrhuol, representing all its active principles.

The dose administered by the mouth to normal subjects in twenty-four hours, varied from fifteen to twenty-five centigrammes.

The analysis of the urine made before and after the administration of these alkaloids showed that:

1st. The volume of urine voided during the twenty-four hours, as well as the amount of urea, was considerably increased.

2d. That it acted as a powerful stimulant to the intra-organic oxidization, a fact already formulated in the conclusions of the original work.

From a clinical point of view the following are some of the results obtained on treating a number of patients with the active principles of cod liver oil:

1st. Five young women with vague pains, loss of appetite, progressive decrease of strength, neurasthenia: The effects in the first place were increase of appetite, return of strength, with loss of the painful symptoms referred to. Three of them who had not menstruated for a considerable period were relieved of the suppression in a short time after beginning the treatment.

2d. In the case of two children who were suffering from malnutrition, the appetite promptly returned in a few days.

3d. Three patients who were afflicted with severe eczematous eruptions at each menstrual period, were cured of this trouble.

4th. In two cases of bronchial catarrh in old patients, the alkaloids produced the well-known effect of cod liver oil, and were administered with advantage and perfectly tolerated.

These observations show that the active principles of cod liver oil are of undoubted value as therapeutic aids where the oil is indicated.

NEW YORK STATE MEDICAL ASSOCIATION.

The Ninth Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn on Tuesday May 23d, 1893. All Fellows desiring to read papers will please notify the Secretary, E. H. Squibb, M.D. P. O. Box, 760, Brooklyn.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

This Society will hold its 87th Annual Meeting at Albany, February 7th, 8th and 9th. The President, Dr. Lewis S. Pilcher, will deliver his inaugural address on the morning of the 7th. The programme is a most attractive one, and those who attend will be well repaid.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The following officers and delegates were elected at the annual meeting held Jan. 17, 1893: President, Dr. J. C. Shaw; Vice-President, Dr. Geo. McNaughton; Secretary, Dr. Myerle; Assistant Secretary, Dr. Braislin; Treasurer, Dr. Cox; Librarian, Dr. Browning. Censors, Drs. Bartley, Hyde, Law, Hutchinson and Barber. Trustee (to succeed Dr. Wallace), Dr. Z. T. Emery. Delegates to State Medical Society, Drs. Winfield, Jeffery, C. F. Barber, Law, Van Cott, and Baldwin.

BROOKLYN VITAL STATISTICS FOR AUGUST, SEPTEMBER, OCTOBER, 1892.

By J. S. Young, M.D., Dep. Commissioner of Health,

Population estimated October 1, 1892, 970,046; Births reported, August, 1,509; September, 1,562; October, 1,382; Deaths reported, August, 1,953; September, 1,682; October, 1,544.

CAUSES OF DEATH.

	Aug.	Sep.	Oct.		Aug.	Sep.	Oct.
Croup,	13	24	38	Diphtheria,	37	42	53
Scarlet Fever,	7	10	8	Typhoid Fever,	30	38	15
Whooping Cough,	34	30	24	Pneumonia,	77	104	156
Measles,	12	7	3	Diarrhœal Diseases,	444	227	92
Small Pox,	0	0	2				

REPORTED CASES.

	Aug.	Sep.	Oct.		Aug.	Sep.	Oct.
Scarlet Fever,	65	71	103	Diphtheria,	101	105	141
Measles,	127	38	45	Small Pox,	9	5	45
Typhoid Fever,	60	90	45				

DEATH RATE.

	Aug.	Sep.	Oct.		Aug.	Sep.	Oct.
Brooklyn,	23.88	21.32	18.79	London,	17.96	16.90	15.90
New York,	25.16	21.71	19.06	Paris,	21.27	24.78	20.03
Philadelphia,	28.36	20.44	19.38	Vienna,	21.32	25.58	19.22

WORLD'S COLUMBIAN EXPOSITION, CIRCULAR NO. 9.

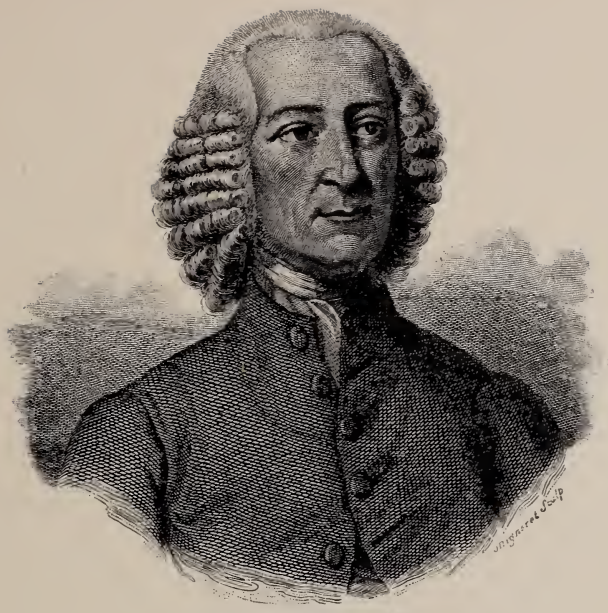
This circular is issued by F. W. Brewer, Superintendent of Bureau of Hygiene and Sanitation. This bureau has been organized to prepare a collective exhibit illustrative of the present condition of sanitary science, and the circular before us is designed to elicit the coöperation of Universities and Colleges, Boards of Health, Societies having hygiene and sanitation as their keynotes, scientists, physicians, manufacturers and the public generally in the endeavor to make the exhibit worthy of the science and our country. The Superintendent invites from experts any suggestions or recommendations that will aid in making the exhibit complete and serviceable.

CHLOROSIS AND RHACHITIS.

Dr. Hoenigshmied, chairman of the Amstetten Section of the Medical Association of Lower Austria, reports in the Aertzlicher Central Anzeiger his experience with a new preparation known as Pepto-Mangan, prepared by Dr. Gude of Leipzig, in the treatment of those most rebellious conditions, chlorosis and rhachitis. He regards these two diseases as being in many respects, symptomatically at least, similar, and believes that the indications for treatment are much the same in the two affections. Three cases are quoted by Dr. H. in which he has used this preparation with the most satisfactory results.

THERAPEUTIC NOTES.

Burns.—Von Bardelben recommends for burns of moderate severity the use of a powder of equal parts of subnitrate of bismuth and powdered starch. The burns are thoroughly cleansed, then washed with a three per cent. carbolic, or three per cent. salicylic acid solution. The blisters that are present are then removed under antiseptic precautions and the above powder then thoroughly applied. This is covered with layers of cotton, which are removed as they become saturated with the secretions, except the one next the wound. This dressing may remain undisturbed for one to two weeks or even a month. In most cases, pain disappears a few hours after applying the bismuth. In burns of the face the writer uses the powder with no other dressing.



JOHN FOTHERGILL, M.D.

For what Garth owed to politics and poetry, Fothergill was indebted to his religion; for he was a zealous and prominent member of the Society of Friends, and through their influence and exertions he was introduced into business.

He was born in Yorkshire in 1712. About the year 1728, he was placed with an apothecary, and on the expiration of his apprenticeship proceeded to Edinburgh, then rising into notice as a medical school. Here he became the pupil of the elder Monro, through whose advice he continued in Edinburgh until he had taken his degree of M.D., in 1736, although he had originally only intended to fit himself for that of an apothecary. After graduating he settled in London and was the first graduate of the University in Edinburgh to be admitted by the Royal College of Physicians. His "Account of the Putrid Sore Throat attended with Ulcers," a disease which produced a great mortality in and around London, and excited much alarm, was for generations the classical work on the subject, and gave extended publicity to his name, and at once established his reputation. His progress onwards towards the most extensive and lucrative practice in the city was most rapid, and he is represented as having been for many years in possession of a professional income of nearly £7,000 per year.

Dr. Fothergill was as distinguished for his charity as for his medical skill, and his expenditures in this way were very large. After he had acquired a competence he purchased the estate of Lea Hall, in Cheshire, where he was accustomed to retire during the summer, and while there he devoted one day in each week to gratuitous service to the poor in the nearest market town. He assisted the clergy, not only with his advice, but on numerous occasions with his purse. On one occasion he was reproved by a friend for his refusal of a fee from a person who had attained high rank in the church. "I had rather (replied the doctor) return the fee of a gentleman of rank I am not perfectly acquainted with than run the risk of taking it from a man who ought perhaps to be the object of my bounty." When he paid his last visit to patients in poor circumstances, it was not unusual with him under the appearance of feeling the pulse, to slip into their hand a sum of money, or a bank-note.

Fothergill entertained high notions respecting the dignity of the profession he followed. Nothing (says Dr. Lettsom) hurt his feelings more, than an estimate of the medical profession, formed upon lucrative advantages. He was ever averse to speak of his pecuniary emoluments. "My only wish," he declared, "was to do what little business might fall to my share, as well as possible, and to banish all thoughts of practising physic as a money-getting trade, with the same solicitude as I would the suggestions of vice or intemperance." In a letter written several years afterwards, when he was in the receipt of a large professional income, he writes, "I endeavor to follow my business because it is my duty, rather than my interest; the *last is inseparable from a just discharge of duty:* but I have ever wished to look at the profits in the last place, and this wish has attended me ever since my beginning." Again he says, "I wished most frequently, and I endeavor after it still, to do the business that occurred with all the diligence I could, as *a present duty*, and endeavored to repress any rising idea of *its consequences*—such a circumscribed unaspiring temper of mind, doing every thing with diligence, humility, and as in the sight of the God of healing, frees the mind from much unavailing distress and consequential disappointment."

Of Dr. Fothergill, Dr. Cuming observes: "He possessed a greater purity of manners, more self government, and a more absolute command of his passions than any man I ever knew, who was constantly engaged in business, and a continued intercourse with the world. After saying thus much, I may be allowed to remark, that there was in his manner a *perpendicularity*, a certain *formality*, and *solemnity*, which checked, in some measure, the approach of strangers. He generally wore, indeed, on his countenance a smile—it was a smile of benignity and philanthropy, and to his patients it was a *hope-inspiring smile*.

"Seldom he laugh'd, and laugh'd in such a sort,
As if he mock'd himself, and scorn'd his spirit
That could be mov'd to laugh at any thing."

At the commencement of the American war, Mr. Grenville, then in power, wishing to know how the quaker colonists stood affected, sent a messenger to Dr. Fothergill, intimating that he was indisposed, and desiring to see him in the evening. The doctor came, and his patient drew from him the information he wanted on the popular topic of American affairs. The conversation lasted through a large portion of the evening, and it was concluded by Mr. Grenville saying he found himself so much better for the doctor's visit that he would not trouble him to prescribe. In parting, Mr. Grenville slipped five guineas into the doctors hand, which Fothergill surveying, said with a dry, arch tone, "At this rate, friend, I will spare thee an hour whenever you please to send for me."

He died on the 26th of December, 1780, expressing to a friend his hope "that he had not lived in vain, but in a degree to answer the end of his creation, by sacrificing interested considerations and his own ease to the good of his fellow-creatures."

J. H. H.



LEONARD FUCHS, OR FUCHSIUS.

This celebrated German physician, and one of the fathers of scientific botany, was born at Wembdingen in Bavaria, January 17, 1501.

After a classical education at Hailbrun and Erfurt, he went in his nineteenth year to Ingoldstadt, where he pursued the study of the learned languages under Capnius and Ceporinus, two eminent professors who had embraced the doctrines of the reformation, which they imparted to their pupil. His religious zeal for the cause of Luther, was so prominent as to give offence to the authorities, and was the cause of his twice being compelled to relinquish the professorship of medicine, which he held at Ingoldstadt; but he afterwards found an honorable asylum in the university at Tubingen, which became a Protestant university, where he remained till his death which occurred in 1656.

He was very successful as a practitioner of medicine, and published some treatises on the healing art. He contributed much toward overthrowing the authority of the Arab physicians, and to restoring the Greeks to honor. As a botanist he corrected many current errors in the nomenclature of plants. The beautiful genus, the Fuschia, bears his name. The work on which his reputation in this department of natural history principally rests is his "Historia Plantarum," published at Basil, in 1542, fol. with numerous woodcuts. A German edition soon followed. These original editions are become very rare, but copies and translations of them, various in merit, are common throughout Europe. The writer is happy in the possession of the Latin edition printed at Lyons in 1551.

The publications of Fuchs though on a par with those of the other learned men of his period, would probably have been long since forgotten, were it not for the transcendent merit of its woodcuts, which number hundreds. They chiefly consist of pharmaceutical plants, which though mere outlines, are justly celebrated for their fidelity and elegance.

By some of his writings especially his "Cornarus furens," published in 1545, against Conarius, who had attacked his "Historia Plantarum" in a work entitled "Vulpecula excoriata." appears to have been vehement in controversy, but his general character and deportment is said to have been dignified and amiable, with a fine manly person, and a clear sonorous voice.

His piety, temperance and indefatigable desire to be useful, were alike exemplary. As a lecturer he was peculiarly admired and followed, especially in his anatomical courses. The famous Vesalius was present at one of his lectures, in which he found himself criticised. He afterwards familiarly addressed the professor, saying, "Why do you attack me who have never injured you?" "Are you Vesalius?" exclaimed Fuchs. "You see him before you," replied the former; on which mutual congratulations ensued, and a strict friendship was formed between these learned men.

Fuchs was so famous throughout Europe, that the great Cosmo, Duke of Tuscany, invited him, with an offer of six hundreds crowns, to become professor of medicine at Pisa, which he declined. The emperor, Charles V, also bore testimony to his merit, by sending letters with the insignia of nobility, which honor also Fuchs for some time declined.

He was indifferent to money, as well as to all other than to literary fame.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

ELECTRODES FOR EXTERNAL USE.

BY R. G. BROWN, ELEC. ENGR.

There is a general complaint among doctors engaged in electro-therapeutical practice that electrodes used for making external contact such as are to be found in the market, are unsatisfactory. The object of this article will be to describe in detail an electrode for external use that will meet all requirements, and moreover one that can be made at home. This latter feature will be most appreciated by those residing at a distance from the centre of supplies, and will therefore be described in such manner that those desiring to make it for themselves will be enabled to do so.

An electrode for external use should possess the merit of allowing a comparatively high current to be used without causing a burning sensation to the patient. It should be capable of being easily and quickly applied, and should be clean and pliable. It

should not wet the patient's clothing, should be simple in construction, and readily made in any shape desired to suit circumstances.

The contact material must therefore be a substance possessing a good and even conductivity and one which will lie in absolutely perfect contact with the skin, thus permitting the current to be evenly distributed over the entire surface covered.

At the supply houses, electrodes are to be found of every variety, made of sponge, felt, absorbent cotton, clay and even bags of skin filled with water

The sponge electrode to be of any service must be so thoroughly wet that the slightest pressure put upon it will squeeze the water over the patient, and unless a sponge is held by pressure in close contact with the skin it is of little use, for the reason that the current will be so unevenly distributed from its surface that the using of a high current is out of the question, that is, without causing a severe burning sensation to the patient—a high current may be qualified in this case, at say 100 milliampères. In fact, the sponge might well be discarded as being altogether too much of a honey-comb structure for good work.

Felt, although of a close texture, is really a miserable absorbent and can never be made to lïe in sufficiently close contact to the skin. It will curl away at every opportunity. The material known as "spongio-pyline," consisting of a mixture of sponge and felt, is practically no better than the felt and for the same reasons.

Absorbent cotton is not sufficiently porous; in fact, it packs to such an extent that it gets lumpy, and then becomes an uneven distributer for the current.

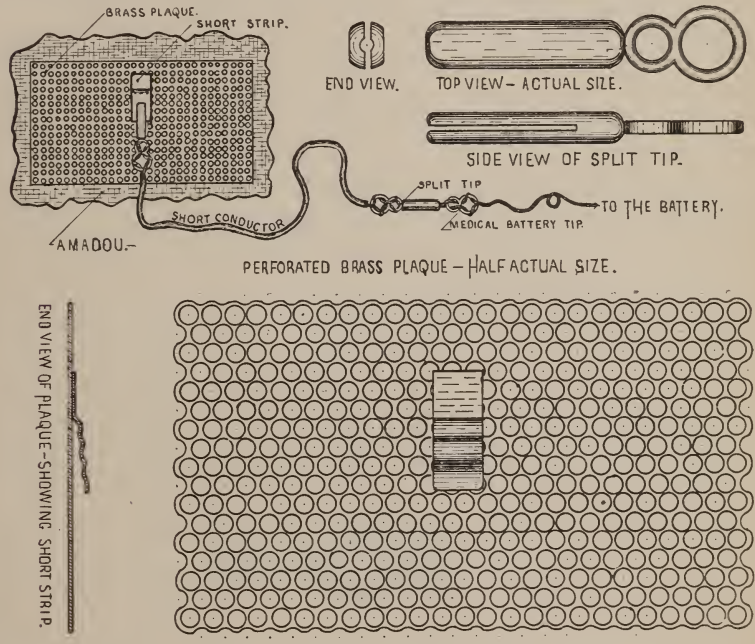
Clay, to be servicable, must be kept well kneaded and moist and when thus applied as a poultice will give good results. It is, from an electrical standpoint, the best, by far, of all the electrodes above enumerated, but on the other hand, it is so cold, unclean, and troublesome to keep in condition that it is rarely used.

Briefly, the new electrode to be described consists of a piece of "amadou," first made moist and laid upon the patient, and on this, but a little smaller than the amadou, is laid a soft piece of perforated brass, having suitable device to connect with the battery.

Amadou is a species of fungus—a substance which grows upon old trees in England and on the continent of Europe When prepared for market it has the appearance of soft leather. It will readily take up more than its weight of water, and in so doing contracts to at least half its former size. When saturated with water

it has a fleshy touch and will readily conform to the irregularities of the body.[1].

This substance will remain moist for a long time, and a sand bag or other pressure may be put upon it without fear of water running from it over the patient. It is exceedingly porous, and when thoroughly wet forms an excellent conductor. The current is evenly distributed over the whole surface covered by it, and consequently no burning spots are experienced by the patient.



The metal used is a plaque, or flat piece of perforated brass, known in the trade as No. 15. It is beautifully smooth on one side, and owing to the punches of the machine in making the perforations is slightly rough on the other. It can easily be cut with an ordinary pair of scissors, to any desired shape, care being taken to follow the perforations in such manner as to leave an unbroken edge all around the plaque as shown in the figure.

After having cut a piece as described, it should be annealed by holding it over the flame of a Bunsen burner, or placed on the hot coals of a fire until cherry red, and then thrown into a

[1] It is difficult to find large pieces of amadou in the New York market, but they can be had at twenty francs the kilo (2 pounds) of Vve. T. P. Brun & Fils, 19 Rue des Halles, Paris.

pan of cold water. This may be repeated, when it will be found to be as pliable as a piece of lead.

A small strip of No. 15 brass, 1-2 inch wide and 1 1-4 inches long, should be corrugated one-half its length, and to the rough side of the perforated plaque should be soldered at one end, leaving the corrugated end slightly raised to receive the connection tip, which will be presently described.[1]

The flexible conducting cord from the battery is connected to the perforated plaque through the intermediary of a short and well insulated piece of flexible conducting cord, having at each end a split tip of special design. This special tip is shown in the figure, and consists of a short piece of spring brass rod 1-4 inch in diameter and 1 inch long. A small hole is first drilled through it longitudinally; it is then split by means of a saw down three-fourths of its length, and in the other end is inserted and soldered one of the ordinary tips that come with medical batteries.

They are made slightly flat on two sides, so as to lie low when connected with the plaque.

This intermediate conducting cord is some 15 to 20 inches in length and is made up of three lengths of the ordinary uninsulated tinsel conductor, twisted together and pulled through a piece of small rubber tubing, which they will just fill. This gives a strong, well insulated and flexible cord, and to the ends are attached, in the usual manner, the special split tips just described.



The conducting cords which connect directly with the battery, terminate in the ordinary medical battery tip as shown in the sketch.

[1] These tips, complete and nickel-plated, can now be had from the Jerome-Kidder Co., 820 Broadway, New York.

To solder, procure a soldering iron, known in the trade as a 1 1-2 I. X. L., a small bottle of soldering acid and some "wire" solder. Heat the iron, but never to a red heat. Put a drop of acid and a small piece of the solder on the perforated plaque at the spot where the small strip is to be fastened and apply the iron, which will cause the solder to run. Then do likewise to the smooth end of the strip. Having caused solder to adhere to both, hold the small strip down on the plaque, by means of a lead pencil or like article, and apply the iron, when they will unite. Do not heat the iron over an ordinary gas jet—soot will form and interfere with making a good job.

The perforated brass, No. 15, is made 2 1-2 feet wide, and costs twenty-eight cents per square foot.

The brass strip No. 15, 1-2 inch wide, costs three cents per running foot; and all can be had at Patterson Brothers, 15 Park Row, New York.

The short intermediate cord is a valuable aid in practice; for instance, it is often found desirable while having one pole of the battery in continuous connection internally to have the other pole connected first over the abdomen, then across the back and again over the abdomen, thus changing back and forth several times during the treatment. To move the external electrode each time would not only inconvenience the patient but would be an actual detriment to the treatment, besides causing a loss of time.

In practice, two external electrodes of large surface are used, each having connected to it one of the intermediate cords. One electrode is placed in position under the back and the other across the abdomen. It is then a simple and quick matter to detach the battery cord from one and connect to the other as desired.

To make the connection between the plaque or external electrode and the short cord, the little brass strip of the plaque is forced into the slit of the tip; the corrugations on the former retaining it in place and assuring a perfect connection.

The battery cord proper is connected to the short cord by pushing the pointed tip of the former into the longitudinal hole of the latter, the spring sides of the tip, as in the other case, assuring a tight and perfect connection.

The whole is simple and easily kept in order, each part being separate and complete in itself. There are no screws to get lost and no chance for sulphites to form between the metal and moist material. The amadou not being attached to the metallic plaque, is easily kept clean and the plaques can be brightened in a moment, by rubbing them with a piece of fine emery paper.

ASIATIC CHOLERA.

BY EZRA H. WILSON, M.D.,

Associate in Bacteriology in the Hoagland Laboratory; Pathologist to St. Mary's Hospital.

Read before the Brooklyn Pathological Society, Oct. 13, 1892.

There have been so many "cholera meetings" in both New York and this city lately, that the majority of the profession have presumably become pretty well acquainted with the cholera spirillum and the methods of destroying it. So I shall diverge from the beaten track and make a few remarks on the methods adopted for isolating it for diagnostic purposes, and of perpetuating it for study.

I wish to classify these remarks under five headings:

First.—Methods of collecting material from suspected cases for biological investigation.

Second.—Methods of handling this material in the laboratory.

Third.—Biological character of the cholera spirillum.

Fourth.—Exhibition of pictures on the screen, illustrating its morphology in colonies and as individual organisms.

Fifth.—Exhibition of pure cultures of the cholera spirillum in the different media.

In the first place, I would state that the examination of material from a suspected case is of vital importance in sounding a note of warning to the Health Department that cholera actually exists in the city, and thus enabling them to start proper methods to prevent its spread.

During the recent threatening of cholera, we were called upon to examine some suspicious cases, and although we did not find the cholera spirillum, the necessity of instructing physicians and especially those connected with the Health Board, in the approved methods of collecting material for bacteriological examination, was manifest.

The apparatus for this purpose is very simple. It consists of a few empty, sterile Sternberg bulbs, a pair of forceps, a pair of scissors, a few sterile tubes and an alcohol lamp.

Instructions should be issued where a suspected case is reported, and the patient is alive, that a stool be saved which has not been disinfected or received in a disinfected vessel. If a "rice water" stool is obtained a portion is received into the Sternberg bulbs in the manner which I will demonstrate to you. If the patient is dead, an incision is made in the abdominal wall, preferably in the right iliac region, so as to get low down in the small intestine; a loop of the gut is allowed to protrude through the opening and this loop is opened by a pair of scissors sterilized in the flame, the stem of the bulb is then introduced and a portion of the intestinal contents received into it.

If a piece of soiled bedding or clothing is to be examined, it is cut out with sterilized scissors and placed in an empty sterile tube.

Second.—Upon arriving at the laboratory the material is placed in tubes of sterile beef-pepton-bouillon. About twenty-five per cent. of the fæces are added to the bouillon, and these tubes are then placed in a thermostat at 38° C. After from 12 to 24 hours, if the cholera spirillum is present, a characteristic grayish, dry, crinkled film or pellicle appears on the surface of the bouillon. Of course this consists of a mass of mixed organisms, so we take three

tubes of liquefied beef-pepton gelatine and inoculate No. 1 from the film—No. 2 is then inoculated from No. 1, and No. 3 from No. 2. These tubes are then rolled upon a block of ice and set aside at room temperature. In the course of a few hours numerous colonies appear on the surface of the gelatine, most numerous in tube No. 1, less in tube No. 2, and least in tube No. 3, where we have a chance to study individual colonies.

Cover-glass preparations are then made from suspected colonies, and if found to present the spirillum, stab cultures are made in solid gelatine, and plate cultures are also made from these isolated colonies, and bouillon tubes are also inoculated from these colonies.

In 24 hours the gelatine tubes ought to show the characteristic liquefaction of the gelatine which you see here. The bouillon cultures 24 hours old are then treated with pure sulphuric acid, when we get the deep purplish-red color known as the "cholera-red," and which is quite characteristic of cholera spirillum—only one other spirillum, the Spirillum Metchnikovi giving this reaction.

So, if after finding the comma bacilli in the bouillon tubes and in the roll tubes, we get the peculiar growth in gelatine, and also get the "cholera-red" reaction, we can be pretty certain that we are dealing with Asiatic cholera.

Third, Biology.—The term "comma bacillus," if used in strict accordance with Cohn's method of classification, as applied to the organism which is recognized by bacteriologists and epidemiologists to stand in a causative relation to Asiatic cholera, is a misnomer. Strictly speaking, the organism should be called the *spirillum* of Asiatic cholera, because it belongs to the class of spirilla, and not to the class of bacilli or straight rod-shaped organisms. These individual rods measure about one-half the length of the tubercle bacillus, but are considerably thicker, with a curve about their long axis varying from almost a straight line to a semi-circle. In examining cholera preparations it is not common to find the formed spirilla of any length except in bouillon or gelatine cultures. Cultures on solid media do not show them as a rule. Cultures in which the growth has been interfered with in some way, or cultures to which alcohol has been added are apt to contain long spirals.

The cholera spirillum is actively motile. In "hanging drop" cultures this motion can be seen to best advantage, both the individual rods and the formed spirals possess the power of motion. This power of motion is due to a flagellum which is attached to one end of the organism, and has recently been demonstrated by the new method of flagella-staining devised by Loeffler, and nicely

photograhed by Guenther, one of whose photo-micrographs I will show you on the screen.

We are by no means certain that the cholera spirillum develops spores. Up to a very recent date it was believed by most bacteriologists that it did not develop spores, but lately Hueppe claimed to have found evidences which were conclusive to his mind that spores do form. These spores form, according to him, outside the organisms by a peculiar process, and are termed by him "arthrospores." Other very reliable observers, as for instance, Kitasato, deny the existence of this form of sporulation.

So we will have to say that spore-formation in the cholera spirillum is not yet proven. The cholera spirillum is an ærobic and facultative anærobic organism, that is, it requires for its growth free access to atmospheric air, or air containing oxygen. It would seem that in the intestinal canal it would be excluded from an oxygen supply, but we are by no means certain that it does not possess the power with other organisms of splitting up molecules containing oxygen by a process of reduction, and thus acquiring a sufficient supply. Another thing which it requires for its growth is alkalinity; it will not grow in media, having an acid reaction. It will grow at room temperature, but better at a temperature between 35° and 38° C. Its growth stops at 41°.

If a tube of pepton-bouillon be inoculated with a pure culture of the cholera spirillum and set aside either at room or incubating temperature for 24 hours or so, a thin, dry, grayish, crinkled film or pellicle forms on the surface, which consists of cholera spirillum in pure culture; after several days this pellicle sinks to the bottom, another forms and so on until the bouillon becomes a turbid mass.

On a gelatine plate or a Petri dish we get the best opportunity of studying individual colonies. In such a plate or dish 12 or 24 hours after inoculation, we see minute, colorless, or faintly yellowish-white spots deep down in the gelatine, which, upon being placed under a magnifying power of about 20 diameters. show an irregular, rough margin, nearly circular, not sharply circumscribed, and presenting a granular surface.

As the colony grows older and larger, this granulation is more marked and presents a peculiar lustre, which gives the colony the appearance of pounded glass. At this time incipient liquefaction occurs around the colony, and is seen as a brilliant halo surrounding it. As the colony grows older, the peptonizing of the gelatin increases, until the colonies have all melted down and the gelatin is a turbid liquid mass in the bottom of the tube.

So that at the end of the fourth or fifth day the plates or tubes are completely liquefied. Esmarch tubes present the same appearances, of course, as regard individual colonies, as the plates and dishes do.

Stab cultures in gelatin show after twenty-four hours a very characteristic appearance. The growth occurs along the entire line of puncture, but the liquefaction occurs most extensively at the upper surface. A funnel-shaped depression is found in the surface of the gelatin similar to, but very much larger than that on the gelatin plate. This funnel shows through the tube as a large air-bubble. The main mass of the culture has accumulated immediately under this air-bubble, and the remainder of the puncture is either clear, or at the bottom the bacteria have accumulated in a mass. The entire puncture resembles a capillary glass tube, which has been blown out at the end.

At this stage the culture presents an extremely characteristic appearance, which is simulated by only a few other organisms—the bacillus of Finkler and Prior; the cheese spirillum of Deneke and the vibrio of Metschnikoff. Of these organisms, the one most likely to be confounded with cholera is the spirillum of Finkler and Prior. It differs, however, in that the individual organisms are shorter and thicker, their ends are smaller and sharper; the colonies are more sharply defined, the surface is not granular and does not have the "pounded-glass" appearance; the mature colonies are lamellated by the liquefaction of the gelatin, and present three zones—a dark centre, a bright middle zone and a dark marginal zone.

In stab cultures in gelatin a much more rapid and wider liquefaction of the gelatin takes place. And lastly bouillon cultures of Finkler and Prior's organism do not give the "cholera-red" reaction. As the cholera culture grows older, the liquefaction of the gelatin continues until entire contents of the tube are liquefied and the mass of bacteria sinks to the bottom. A whitish film remains around the tube at the level of the gelatin, which is a rich mine for the various "involution forms" of the organism Gelatin cultures are usually not transmissible after about eight weeks.

Agar.—On agar the growth is not especially characteristic. On slanting agar it develops along the line of inoculation as a moist, white film, which finally spreads out laterally over the surface of the agar. In stab cultures in agar the growth follows the line of inoculation as a white line, but spreads out on the exposed surface of the medium.

Spirilla retain their vitality in agar cultures for eight or nine months.

Potatoes.—The surface of boiled potatoes has a feebly acid reaction, but the cholera spirillum will develop upon it with the aid of incubator temperatures.

It seems that it can overcome an acid reaction if it is of vegetable origin by being placed in a favorable temperature. The growth is of a brownish gray color and is confined to the place of inoculation.

Milk.—It will grow in sterilized milk without perceptibly altering its appearance. In unsterilized milk it will live only a short time, owing to the acid fermentation which is soon set up by the development of the bacillus of lactic acid.

The growth of the cholera spirillum is interfered with or stopped by extremes of temperature, by contact with other organisms, or by contact with certain chemical agents. It is very sensitive to desiccation and to the direct action of sunlight. Its growth ceases above 40° C. Its life is destroyed at 56° C. Its growth ceases at 15° C. Its life is not destroyed by—10° C. (at which temperature the culture medium is frozen) if after thawing, it is placed in fresh medium and under favorable conditions.

It will not grow in acid media, and the gastric juice of the lower animals destroys it.

It is very sensitive to the presence of other organisms, especially saprophytes, being very soon "overgrown" by them.

Its resistance to chemical agents has been lately described to you in a paper before the Kings County Society by Dr. Sternberg, and I do not propose to dwell upon that part of the subject.

In conclusion, I would like to say a few words in regard to the experiments which have been made upon animals with the cholera spirillum. It does not detract from the etiological status of cholera spirillum that experiments on the lower animals have often failed; because, like typhoid, these animals are insusceptible. No results are obtained by feeding animals on cholera cultures; injecting cultures into the veins produces symptoms very different from cholera, and is not comparable as a natural channel of infection. Nicoli and Rietsch produced a fatal disease, resembling cholera, in guinea-pigs, by introducing the cultures into the intestinal canal after ligating the bile ducts. Here the result was due to the fact that it had not come into contact with the gastric juice nor the bile, and was placed in a viscus having an alkaline reaction.

Koch succeeded in transmitting cholera to guinea-pigs by first administering a small dose of bicarbonate of sodium to neutralize the acidity of the stomach, then injecting subcutaneously a small dose of opium, and after the animal is in a somnolent condition,

introducing a small quantity of cholera culture. The animals usually die inside of forty-eight hours, and the post-mortem conditions are those of cholera. The small intestines are congested and contain a watery fluid in considerable quantities, which contains the cholera spirilla.

DISCUSSION.

Dr. E. H. BARTLEY:—I was struck with one statement made by Dr. Wilson with reference to the fact that the germ will grow in the sterilized milk more readily than in unsterilized, and that the germ will die out very shortly in the latter.

I would like to ask how long the germ will live in the unsterilized milk, and if the instruction to sterilize the milk before using it during the prevalence of cholera should be disregarded.

Dr. WILSON:—Not by any means should that instruction be disregarded. I only made the statement to show that the germ will have a better soil to grow upon in the sterilized milk, because in the unsterilized milk the acidity acquired by lactic acid fermentation kills the germ. The length of time the germ will live and grow in unsterilized milk, of course, varies with the length of time the milk keeps sweet.

The question was asked if Dr. Wilson ever made any cultures of hog cholera and chicken cholera.

Dr. WILSON:—Yes, but the cultures differ very materially from cultures of the cholera spirillum.

Dr. BARTLEY:—Will the germ live in sea water? Will it contaminate sea food?

Dr. WILSON:—It will live for about sixty days in sterilized sea-water, in unsterilized sea-water its length of life will depend upon the presence and number of others, and especially saphrophytic bacteria. In answer to a question just asked me, I would like to state that the spirilla are seldom found in the vomited matter.

Dr. STUART:—How long a time will it take to accurately diagnose a case of suspected cholera?

Dr. WILSON:—I think it can de done in forty-eight hours.

Dr. KEMP:—I read a report only yesterday on the examination of the first suspected cases in Hamburg, and there it took four days, Dr. Koch himself having first reported in the negative and later finding the germs in the culture.

Dr. HENRY:—I would like to ask Dr. Kemp whether the cholera spirillum is found in the blood and urine, or is it confined to the intestinal tract and is it the cause of the watery evacuations?

Dr. KEMP:—The spirilla are never found in the blood nor in the

urine, and as a rule do not penetrate beyond the mucous membrane of the intestine.

It is pretty generally conceded that the spirillum itself does not cause the watery evacuations, but that it excretes a toxic substance which does have that effect, perhaps in a manner similar to the action of elaterium. The evacuations wash out a large percentage of the spirilla, a few remaining increase in number, excrete more of the toxic substance—causing further evacuations. This is repeated over and over until it simply becomes a question whether the tissues of the body can "put up" as long as the demand is made by the spirilla.

Dr. MADDREN:—In regard to the ptomaines being absorbed, is there any better antidote, if it be an antidote, than alcohol? Is the toxic subject a chemical?

Dr. KEMP.—Alcohol is not properly an antidote, but it is a stimulant of great value and sustains the system. We are not sure yet what the toxic principle is but tannic acid precipitates it, and if it be not an antidote we know of none other.

PATHOLOGY OF CHOLERA.

BY GEORGE T. KEMP, M.D., Ph.D.,

Associate Director of the Department of Physiology and Experimental Therapeutics, Hoagland Laboratory, etc.

Read before the Pathological Society of Brooklyn, October 13, 1892.

Dr. Wilson has just given you such a full and interesting description of the cholera germ and its characteristics, that I need spend no time in referring to it, but shall take up the history where he left off.

One of the beauties of the pathology of cholera is the simplicity with which the story may be told.

The spirillum enters the mouth, most commonly with drinking water, and, if it succeeds in escaping destruction in the stomach, which is normally acid, it is likely to find in the intestine a proper soil for its development. Here it multiplies with great rapidity, and, in connection with its growth, there is produced one or more substances which cause a flow of water from the blood into the intestines, and which, when absorbed by the blood and carried through the system, produce physiological and anatomical changes, more or less in common with other zymotic diseases.

The excessive loss of water from the blood is the most important change in cholera. While the spirilla continue to grow in the intestine there is being constantly produced the substance which causes the water to pass from the blood into the intestine just as a hydragogue cathartic will do. This water is then swept out in a choleraic discharge, but enough of the spirilla remain behind to multiply and produce a fresh supply of the poison which abstracts water anew, and thus the drain is kept up on the blood. The chief loss of the blood is in water and sodium salts, and so great does this loss in water become, that the blood is often one-and-a-half to two times as thick as in health and flows with difficulty through the vessels. After death, upon cutting a vein, the blood often oozes out like mucilage. The secretion of urine is frequently suppressed, and urea accumulates in the blood. The salts of potash and the phosphates are not abstracted from the blood to any great degree, and as these are principally in the corpuscles while the sodium salts are in the plasma, we are justified in assuming that the corpuscles are but little affected chemically. The alkalinity of the blood is notably decreased, and it has even been reported to be acid shortly before death.

The anatomical appearance of the body as a whole, and of the different organs in particular, depends upon the stage of disease in which the patient dies. As the pathological conditions in each case are so markedly different they will have to be described separately.

If death occurs during the cyanotic state the face is of ashen or leaden hue and the skin is more or less pinched and blue all over the body, owing to the stagnation of the blood, during life. Rigor mortis is usually marked, though post-mortem cramps may occur in the muscles and are sometimes sufficient to cause great movements of the limbs or to change the position of the body. A post-mortem elevation of temperature has been frequently recorded, and it is the rule for the heat of the body to be retained for a considerable length of time. The changes in the various tissues are dependent, for the most part on the loss of water, the blood taking water from the rest of the body to make good its own loss. The serous cavities, notably the pericardium, contain little or no fluid, and the thick albuminous substance which remains after the normal fluids of these cavities have been robbed of their water, often resembles an inflammatory exudate.

The Heart.—The heart is usually found in systole, but can hardly be said to exhibit any anatomical change; the distribution of blood, however is interesting, the left heart being nearly empty, while the right heart is engorged with blood thick and viscid.

The Lungs.—The lungs are more or less collapsed and especially noticeable for their lack of blood. There is, sometimes, more or less hypostatic congestion which is of no significance, but the lungs as a whole are signally free from blood and consequently are light and tough. It seems as though the right heart was not able to force the thick blood through the pulmonary capillaries; hence the engorgement of the right heart and venous system and emptiness of the left. Ecchymosis of the pleura and of the pericardium are not uncommon.

Abdominal Viscera.—The abdominal viscera, with the exception of the alimentary tract, possesses little or nothing of special interest in cholera. In the kidney, on splitting it open, the cortex appears lighter and the pyramids darker than in health, thus making the contrast more striking, but the change is simply due to venous engorgement (shown by microscopic examination) and arterial depletion. Whitish spots of fatty degeneration are described by some authors as occurring during this stage—they are common if the patient survives this stage and dies later on. The bladder is contracted and nearly always empty. The liver and spleen have no points of interest for us. The contents of the stomach vary in different cases. They are usually very watery, sometimes acid, sometimes alkaline, and contain albumen and epithelial detritus. A slippery albuminous substance is often found adhering to the mucous membrane. That there is an actual excretion of water into the stomach is shown by the fact that under the old treatment, when the free use of water was forbidden, patients often vomited more fluid than they drank. In connection with this and with the suppression of urine, it is interesting to note that the contents of the stomach have been found to contain urea.

The Intestines.—The intestines are undoubtedly the most interesting of all the viscera in cholera, for they are the seat of the development of the spirillum, and consequently the manufactory of the poison. Upon opening the abdomen and raising the omentum, the intestines are seen to be pink from congestion, and covered by a thick substance which has a soapy feel. This is the albuminous residue which remains after robbing the peritoneal fluid of the greater part of its water. All the coats of the intestine are more or less congested and inflamed. Peyer's patches are swollen and surrounded by a zone of inflammation. Death may come on at such an early stage that no such changes have time to appear. Desquamation of the epithelium occurs as a post-mortem change. A microscopical examination of a section of the mucosa of the intestine shows that the cholera spirilla have penetrated the mucous membrane,

and are found both in the columnar cells of the crypts of Lieberkühn, in the lumen, and in the subjacent tissue. A favorite seat for their accumulation appears to be between the columnar cells and the basement membrane. This loosens the epithelium at this point, and makes it fall away more readily as a post-mortem change. The most careful observations tend to disprove the older view that this desquamation occurs during life. The contents of the intestines vary in consistency from that of pea soup to that of water, and are more watery, as a rule, the nearer we approach the anus. The liquid is generally opalescent white or of a yellowish straw color, or possibly tinged with blood.

Floating in this liquid are the characteristic small particles which give the stools the name "rice water." These little solid particles, when seen under the microscope, are found to be made up mostly of mucus, granular matter and leucocytes with sometimes patches of epithelium. Unless the microscopical examination be made promptly after death, desquamated epithelium may be found in abundance. Scattered throughout the contents of the intestine, but especially numerous in the characteristic "rice-grains" are Koch's spirilla. These are frequently found along with a great number of other bacteria, but in other cases they may be found to be practically the only organism present. For the technique of the examination and cultivation of these organisms, I need only ask you to recall the exceedingly interesting remarks of Dr. Wilson, to which we have just listened.

With the simple statement that the central nervous system is without appreciable anatomical change, except that the cerebrospinal fluid is nearly all dried up and that the veins of the meninges partake of the general venous engorgement, we may conclude our description of the pathological changes in cholera up to the end of the algid stage.

If the patient survive this stage the later pathological history may be soon told, for it is that of all the zymotic diseases as a class, viz.: Locally, special repair at the seat of zymotic process; and for the system in general, as a morbid physiological condition, shock, as a morbid anatomical condition, parenchymatous degeneration followed by fatty degeneration.

After cholera we have local repair in the intestines, the fæces become thicker and the swollen glands tend to return to their normal condition; but frequently we have ulceration, or diphtheritic deposits and necrosis to follow where the acute process had been. Where anæmia had existed hyperæmia supervenes, and the brain and cord, or the lungs, may become œdematous.

Cholera, as scarlet fever, chooses the kidney as the principal victim of its tour of degenerative changes, though parenchymatous and fatty degeneration may affect other organs as well. Granular, fatty or hyaline casts are common in the urine during convalescence from cholera, the kind and number depending, of course, on the extent and degree of nephritis.

In preparing this paper to present to you to-night, I consulted all the German and French journals which were accessible, in order to get any new facts which improved methods of investigation or closer observation during the recent epidemic might have brought to light. I was struck by one thing in particular, and that is how thoroughly the methods of treatment, which statistics show to give the best results, are in accord with the inferences which we would naturally draw from the more accurate determinations of chemistry and microscopy. In order to show this relation more clearly, let me ask you to recall what I said in the earlier part of this paper while giving, so to speak a bird's-eye view of the pathology of cholera. You will remember that I spoke of two general dangers to life, the rapid abstraction of water from the blood, and the absorption of a toxic substance which wrought pernicious effects in the system, causing death in particular by heart failure and serious lesions in the kidneys. You will recall, also, that this poison or poisons is produced in the intestine as the result of the growth of Koch's spirillum there. The ideal treatment, therefore, would be one which would stop the growth of the spirillum, thus preventing the formation of a new supply of poison, and at the same time neutralize the effects of the poison already formed, and in addition to this meet any pathological condition which might exist in the system, to the immediate danger of life. In the collapse of cholera, the two most threatening conditions to be met are the low temperature and the anhydric state of the blood. Of all the methods of treatment, we find experienced opinion coming more and more to the support of warm injections of saline fluids to supply directly to the system that which it is so rapidly losing through the intestine. These injections are either per anum, subcutaneous, intra-venous or even, as a last resort, intra-arterial. Each method has its advocates. The treatment of injection per anum will be discussed separately, the others all have the effect in common that they supply water and salt to the blood to make good its loss, and that the heat of the injected fluid replaces to some extent the heat of which the body has been deprived.

In the treatment of cholera by injections per anum, there are technical difficulties, which, I fear will always be a serious draw-

back to its widespread practical application, but they are not insurmountable and perhaps with improved methods we may yet overcome them. It is, however, in their relationship to the pathology of the disease that we are especially interested, so I shall therefore call your attention to a closer consideration of this relationship.

In tannic acid we have a substance which kills the spirillum (you will recall that it does not grow in acid media) and also precipitates the soluble poison already formed, so as to prevent its absorption. To prove that tannic acid renders insoluble the poison already formed, Simone under the direction of Cantani (Berlin klin. Wochenschrift, 1892, p. 918) injected sterilized bouillon cultures which contained the soluble poison, but no living spirilla, into the peritoneal cavity of dogs. Result: General weakness, fibrillar contraction of heart, head drooping, cramps in hind legs, severe vomiting and retching even after the stomach was empty, fall of body temperature, marked cyanosis of pink nose in a white dog. Recovery spontaneous. Upon adding tannic acid to a cholera culture similarly prepared, there was a precipitate, and injection of fluid either with or without the precipitate, failed to produce any pathological symptoms. If now, to the same dog, we administer some sterilized culture to which tannic acid had not been added, we get the characteristic symptoms described above. In addition to destroying the spirilla and precipitating the poison, tannic acid is one of our best astringents, and is just the thing demanded in the relaxed condition of the intestine found in cholera.

The most ardent advocate of the method of treatment by injection per anum is Cantani, who first used it during the epidemic at Naples in 1884. He says that with proper care it is possible to medicate the whole of the small intestine by injection per anum, thus meeting every indication demanded. The heat of the injection acting rapidly through the whole length of the intestine causes a prompt reaction. The demand for fluid in the intestine is supplied from the injection, not from the blood, the poison creating this demand is destroyed, and the spirilla which manufacture this poison are killed. Cantani advocates as the first procedure in the diarrhœal stage, rest in bed, warmth, and opium with aromatic sulphuric acid internally. If the diarrhœa is not promptly checked, then begin the treatment by high injections without delay. Of eighty-three cases treated in this way before collapse, he reports a mortality of *nil;* of seventy-nine cases seen later in the course of the disease, he reports a mortality of fifty-six per cent. or, only two per cent. higher on cases selected for having reached the danger-point than was reported as the average result of treatment by other methods by the

practitioners of Naples during the epidemic. These results claim attention and the fact that it is practically difficult to give a high injection does not detract from its value as a scientific observation in cases where the technical difficulties have been overcome. We have in these possibilities the ideal union of science and medicine, when the pathologist shall give us the germ and its life-history, the experimental therapeutist the drug or method which shall combat it directly, and the practicing physician shall take up—not the shot-gun of the past and blaze away in the fog, but the rifle of the future, loaded with one ball, which aided by the light of scientific knowledge, he sends straight to the bull's-eye.

PHYSIOLOGY AND EXPERIMENTAL THERAPEUTICS.

BY GEORGE T. KEMP, M.D., Ph.D.

Associate Director of the Department of Physiology and Experimental Therapeutics, Hoagland Laboratory, Brooklyn.

A NEW HYPNOTIC DERIVED FROM CHLORAL, BUT WITHOUT THE DANGEROUS PROPERTIES OF THE LATTER.

In the *Comptes Rendus, etc., de l'Académie des Sciences*, 1893, vol. cxvi, p. 63, we find an interesting note by Hanriot and Ricket on a new derivative of chloral which they call *chloralose*. The same substance, they say, was prepared by Hefter and described by him (*Ber. d. d. ch. Gesells.*, 1889, p. 1050), but, as claimed by Hanriot and Ricket, in an impure state. Chloralose is prepared, according to Hanriot and Ricket, by heating glucose and chloral, from which results, on cooling, a pasty mass. From this mass, by a somewhat lengthy process, they obtain chloralose; the yield being three per cent.

As finally obtained, pure, the chloralose crystallizes in fine needles slightly soluble in cold water, moderately soluble in warm water and in alcohol. They fuse at 184–186°. On heating, these crystals volatilize completely without decomposition, and on analysis, they correspond to the formula $C_8H_{11}Cl_3O_6$. Treated with potash it does not give glucose (contrary to Hefter's statement concerning the substance which he analyzed). With sulphuric acid we obtain a di-sulphuric compound, and with acetic anhydride a compound containing four acetyl groups.

As the result of experiments on dogs, cats and birds, *as well as on themselves*, and also *after five months' trial in hospitals* by Landouzy and Moutard-Martin, Hanriot and Ricket feel justified in stating that in chloralose they have a hypnotic which, while inducing sleep, does not depress the spinal cord, and is without the dangers of chloral. It induces refreshing sleep without unpleasant after-effects. It is more powerful than chloral and can be given in a smaller dose.

As the result of clinical experience in the hospitals, one gramme (15½ grains) was found to be a large dose. The best results were obtained in doses of from 0.20 gr. to 0.80 gr. (about 3 to 14 grains). The usual dose given was 0.50 gr. (about 8 grains).

In these doses it is not only hypnotic but also analgesic, so that it is highly recommended when pain is to be quieted as well as when sleep is to be induced.

A POSSIBLE CASE OF ANÆSTHETIC LEPROSY.

BY JAMES McF. WINFIELD, M.D.

Presented to the Brooklyn Dermatological and Genito-Urinary Society, December 9, 1892.

James D., colored, age sixteen years; born in St. Vincent, one of the Caribbean Islands; lived for six years in the island of St. Christopher (commonly known as St. Kits), another of the same group; has been in the United States seven years. His paternal great-grandfather was a Scotchman; great-grandmother, negro, descendant of slaves brought to the island many years ago. Maternal great-grandfather was a Dane; great-grandmother a Caribbean Indian.

In appearance the patient is a mulatto. As far as it is able to trace, the family history is entirely free from any taint, such as syphilis, tuberculosis or leprosy, and the healthy appearance of the patient's parents and sister certainly verifies this statement.

About three years ago he began to complain of lancinating, "lightning-like" pains in arms and legs; more particularly on the right side. Some time previous to the advent of these pains the mother noticed a small, circular patch over the right malar eminence. Spots of the same character were also observed on the buttocks. They so closely resembled ringworm that remedies were applied for this disease, but in spite of treatment they con-

tinued to enlarge and new ones formed over other parts of the body. The boy's general health began to decline. Although not sick he was not as strong and vigorous as formerly; appeared listless and stupid.

The present condition is as follows: On the left side of the face, involving nearly the whole portion between the outline of lower jaw back to the ear, is a non-pigmented spot, considerably lighter than the surrounding skin. Fig. I. Running obliquely through the centre of this spot is a pigmented line. In passing the finger over the surface you can easily appreciate a ridge-like elevation where the abnormal skin becomes continuous with the normal. We find the same semi-leucodermic-like patches over the neck, shoulders,



FIG. I.

arms, trunk and legs; some are formed from the coalescence of small macules, others from peripheral enlargement. Fig. II. There has never been any eruption or ulceration about the patches, except some have at times presented a marginal ring, somewhat resembling eczema marginatum, there being minute vesicles and scales about the borders. Injuries received to the skin resist treatment. At present (Nov. 30) there is a large ulcer on the right heel, caused by chafing of the shoe. This injury was received some time during the summer. The ulcerative process has extended so deeply as to expose the ligament covering the attachment of the tendo Achillis to the os calcis.

In August he ran a tack in the sole of the foot near the big toe. This comparatively insignificant wound rapidly became an ulcer, exposing the deeper structures about the toe joint. This ulcer has somewhat improved, and healthy granulations are beginning to appear under the use of calomel and aristol powder,[3] but the heel injury is steadily growing worse. These lesions are undoubtedly trophic rather than from any neoplasm. The arms, hands and right leg present such changes as follow neuritis; there is atrophy of the interossei muscles and flattening of the thenar and hypothenar eminences. This deformity is progressive, producing more or less a

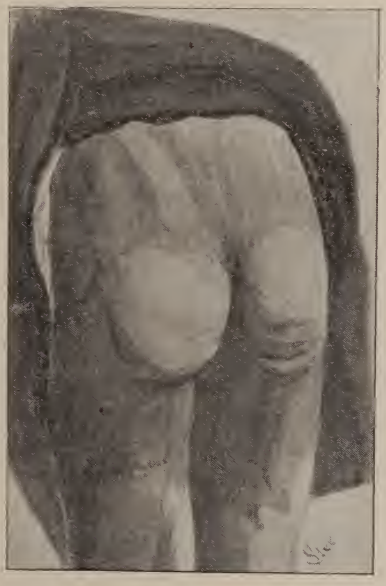


FIG. II.



FIG. III.

claw-hand. Fig. III. Both ulnar nerves feel cord-like and there are a number of nodules along the ircourse, particularly just above the olecranon. The skin over the legs and arms presents an ichthyotic appearance—it looks old, dried up and shriveled. All the light patches are anæsthetic, except two recent ones on the anterior of the thigh, which are decidedly hyperæsthetic. The sensation of the various spots was thoroughly tested by heat, cold, Faradic brush and pricking. In all the patches temperature sense is blunted, in some—particularly the older—there is complete loss.

[3] January 8, 1893. This ulcer, after being apparently healed has broken out with renewed vigor. W.

One of the patches was blistered during testing and the patient was wholly unconscious of pain, but was vaguely conscious of the contact. The sense of touch is dulled and localization impaired. There are also complete analgesia and therm-anæsthesia of the hands and feet, in general, irrespective of patches. The full strength Faradic current (brush electrode) was required to elicit any response over the centre of the whitish patches, but as the brush was drawn towards the periphery, sensation became more acute, and when the healthy surface was reached the mildest current was barely tolerated.

The patient is very decidedly undeveloped for a boy of sixteen, born in the tropics and of the negro race; his testicles are as small as a child of five years, there is only the faintest suspicion of hairy development about the pubes; complete absence of erections until recently; his voice and manner are childish. Intellectually he is very bright, is fond of study, and up to two years ago applied himself assiduously to his lessons, since then he has not been able to, on account of headaches and languor. His hearing seems to be normal, eyesight good, except the eyes tire easily. There is some weakness of one of the muscles of right eye. In recapitulation we find the following symptoms: Evidences of neuritis, involving nerves in all four extremities, producing a certain amount of atrophy, analgesia, therm-anæsthesia, impairment of tactile sense, the advent of grayish-white non-pigmented spots, or macules, generally distributed over the body; at first the patches are hyperæsthetic, later anæsthetic. Slight injuries become aggravated into deep, indolent, ulcerative processes; beginning changes in nails of toes and fingers; increased general sweating; retarded physical and sexual development. All of these symptoms occurring in a native of a leprous country, with a history of possible contagious exposure from a playmate, who had some suspicious illness,[2] naturally leads us to be strongly inclined to the diagnosis of leprosy. Before I saw the patient his parents were aware of the possibility of leprosy, simply from their familiarity with it in their native island. To differentiate, there are four diseases to be taken into consideration, viz: trichophytosis, leucoderma, syringomyelia and lepra. We might be led to suspect ringworm from the appearance and growth of the patches. The macules begin as small,

[2] This playmate was a boy, native of St. Kits, considerably older than the patient. As far as the parents are capable of judging, he presented similar nerve and cutaneous lesions; he was thought to have had syphilis. It could not be ascertained if he has since died or not. W.

irregularly circular spots, clearing in the centre, spreading gradually; the margins of some are slightly papular and vesicular, and in some portions there are fine scales. Coming from the tropics, tropical ringworm (tinea imbrecata) might be thought of; but in all the history of trichophytosis there is no mention of anæsthesia and from the fact that there is both hyper- and anæsthesia in the patches of this case, every form of tinea can be safely excluded. In leucoderma the patches somewhat resemble those of this affection, except in vitiligo the spots are much whiter, the skin feels normal to the touch, sensibility is not impaired. The patches in this case are of a dull, grayish yellow; the skin feels elevated and there is hyperæsthesia in some spots and anæsthesia in others. It is clearly not leucoderma.

The last and most difficult to determine is syringomyelia, a disease which presents nearly all of the symptoms found in this case. The following is a table of the differential points between syringomyelia and the present case:

SYRINGOMYELIA.	THE PRESENT CASE.
(1). No cutaneous patches.	Spots of loss of pigment.
(2). Lessening of sudoriferous function.	Increased general sweating.
(3). Sensory changes correspond to nerve distribution or involve whole parts.	Sensory changes over trunk, etc., principally in patches, although ends of extremities involved more uniformly.
(4). No appreciable hardening or thickening of nerves.	Nodules and cord-like hardness of ulnar nerves.
[3](5). No involvement of parts above neck.	Patches with anæsthesia on face. Slight paresis of some eye muscle; slight atrophy left side of face.
(6). Affection is somewhat localized.	General involvement of whole body.
(7). No special sexual retardation.	Decided retardation.

Dr. P. A. Morrow, of New York, in an article on "The Diagnosis of Leprosy,"[4] says that "Syringomyelia is a disease with

[3] M. L. Jacquet (1891). Describes a case of Syringomyelia, in which trophic ulcers appeared on right ear and parieto-occipital region. Boston Medical Journ., 1892, ii., pp. 361-2.

[4] Journal of Cutaneous and Genito-Urinary Diseases, January, 1890.

which anæsthetic leprosy sometimes presents the closest clinical analogies and from which it may be most difficult to differentiate," and, "in many cases leprosy pursues an anomalous course. The macular, pemphigoid and other trophic changes may be absent, and motor and sensory disturbances constitute the only manifestations. There are many diseases depending upon lesions of the peripheral nerves and cord," *of which syringomyelia is one*, "the symptoms of which may be accurately simulated by leprosy. When the neuritic changes are accompanied by the presence or history of leprous exanthems, hyperæsthesia and anæsthesia, disturbances of the sweat function, etc., etc., there is no difficulty in diagnosis, but when the paralytic and atrophic changes constitute the sole objective signs, remaining stationary, and persisting for months or years, the diagnosis may become exceedingly difficult." It was hoped that a more positive diagnosis could be arrived at by making cultures from scrapings of the skin, the blood and the discharge from the ulcer, but at the advice of Drs. Sternberg and Wilson, of the Hoagland Laboratory, this test was deferred, until the disease progressed further. For the identification of the lepra bacillus in the anæsthetic form it is very impracticable, and in the vast majority of cases futile, because of its deep situation in the tissues. Although Dr. Pitres,[5] after examining the serum, pus, etc., with negative results, found a large number of the bacilli of Hansen in a small piece of nerve removed from the forearm. It was not considered advisable to excise any of the nodules from the ulnar nerves in the case under discussion; so for the present the diagnosis must remain in doubt. Still, even though the disease ceases to progress, or there are never any bacilli found, it could not yet be positively said that it had not been a case of leprous neuritis, for although in the majority of instances leprosy is progressive, yet there are numerous clinical examples of abortive or undeveloped cases. The disease may progress to a certain stage and then definitely cease, the patient living for years and finally dying from some intercurrent disorder.

TREATMENT OF "BAD COLDS."

℞. Sodii salicyl. ʒ ss.; Syr. aurantii cort. ʒ ss.; Aq. menth. pip. ad ʒ iv. M. Sig.: A dessertspoonful every three or four hours.—Memphis Medical Journal.

[5] La Semaine Medicale, Paris, December 2, 1892.

PUERPERAL HEART-CLOT.

BY FRANK BALDWIN, M.D.

Read before the Brooklyn Gynæcological Society, December 2, 1892.

Heart-clot in the puerperal woman is a very rare complication. The possibility of it has been denied until a comparatively recent date. This denial has arisen from the fact that after death the heart cavity is found empty and the clots plugging up the pulmonary artery instead.

In 1849 Meigs directed attention to heart-clot, and assigned it as the cause of a sudden death in his own practice. Playfair convinced some doubters by a lengthy paper which appeared in the Lancet in 1867. He reported an additional case in 1871. Since that period physicians have been less timid about diagnosticating this condition, where symptoms plainly pointed in that direction.

Fordyce Barker in his lectures (1869) says: "Observations have demonstrated that clots may form both in the pulmonary artery and in the right cavity of the heart as a primary lesion."

He weakens a part of this statement a little later, when he says that pulmonary thrombi in the great majority of cases are found to have formed around a clot which has escaped from the cavity of the heart.

The skeptical have persistently claimed that the clots were formed where found, in other words, that they were pulmonary thrombi and not emboli. Where parenchymatous changes have taken place in a lung tissue, and the vessel walls have become changed, no more favorable location could be imagined for the formation of a thrombus; but recent investigations have demonstrated the fact that clots are not at all apt to form within a healthy vessel.

Bencke says that blood may be kept unchanged almost indefinitely within a normal vein or artery, if it is enclosed between two ligatures. To show—on the other hand—what a rougher surface will do, we have only to draw a fine silk thread through the artery of a living animal when a clot will promptly be formed upon it, which will grow and threaten to occlude the lumen of the vessel. It is evident from this that a thrombus is far more prone to locate in a heart cavity where morbid changes have taken place, than within the normal walls of the pulmonary artery.

Right here arises another objection to the heart-clot theory—namely, that these clots are travelers from the peripheral veins—

especially from the placental site. Playfair, however, states with considerable positiveness, that coagula in the veins, are tenacious, and do not break up until the process of softening has begun—which never occurs before the nineteenth day after delivery. This accident doubtless occurs often enough after this time, but it can hardly be held accountable for the deaths which occur from pulmonary emboli shortly after the birth of the child.

During the latter months of pregnancy and for several weeks after that event, the condition of the blood is such as to favor the formation of thrombi. The water is increased, as is also the fibrin. There is an actual decrease in red globules and in hæmoglobin. To this blood there is added a large quantity of effete material looking for a place of exit from the body. Of course if the right cavity of the heart has been the seat of morbid changes, the danger is greatly increased.

That there is a close relation between rheumatism and puerperal heart-clots has been observed for a long time. Barker says that several of the patients whose cases he reports had suffered recently from rheumatic fever and endocarditis. It would be rash, however, to affirm that this relation depends entirely upon endocardial changes. Many women who have roughened pulmonic valves, go through confinement with no more trouble than others who are not so afflicted; and yet there can be no doubt but what such a condition predisposes to the formation of clot. Rheumatism affects the blood very much as child-bearing does, and it certainly renders it less alkaline, which of itself would increase the chances of coagulation.

About eight years ago, I attended a woman in her fourth confinement. She had suffered with inflammatory rheumatism during the period of gestation, and endocarditis was recognized at the time. She did well until the seventh day, when, while reaching for some object on the foot of the bed, she was seized with extreme dyspnœa and died almost immediately. This had every appearance of a case of heart-clot, and yet I do not pretend to report it as such because I have no notes and my memory can hardly be trusted to give all the details. It served, however, to put me on my guard and make me very suspicious of women who during their pregnancy had been afflicted with rheumatism.

My next case of this kind was Mrs. K., twenty-six years of age, weight about one hundred and ten pounds. It was her first pregnancy, and she was very apprehensive as to the outcome of it. Six months before, she had been sick for about two weeks, with what was considered a light attack of inflammatory rheumatism.

She suffered, at the time, a good deal, with an uncomfortable sensation at the heart. This continued for several days after the other symptoms had disappeared. There being no objective symptoms of heart trouble, her physician considered that the distress was purely muscular.

I first saw her professionally about three weeks before her confinement. She had not felt very well since her illness in the spring but laid all her bad feelings, which, by the way, were of a somewhat indefinite character, to malaria and to her condition. I examined her heart very carefully, but could detect no murmur or other sign of disease. She seemed much reassured when I told her of this.

I was called to attend her on the morning of Oct. 25th. She had been in labor all night. About 2 P. M. she was delivered of a healthy eight-pound girl. The position of the child was occipito-posterior and considerable damage to the perinæum resulted. This I repaired at once. I applied a bandage as tightly as my patient would permit, and soon after left her in good condition. I was obliged to use the catheter for thirty-six hours, but after that she voided urine without assistance. Owing to the extreme terror of my patient at the mere suggestion of catheterization, I was compelled to administer a few drops of chloroform at each operation—nine in all. On the third day she complained of vesical pain and tenesmus. This continued until the fifth day, when it gradually disappeared. During this time her temperature rose slightly over a hundred, but dropped to normal again on the fifth day Her milk came later, but was plentiful.

When I made my call on the morning of the tenth day, I found her sitting up in bed fondling her baby and anxious for my permission to join the family at dinner in the evening. At my request, however, she promised to remain in bed two days longer, though she said she never felt better in her life.

At 3 P. M. I was called in great haste. While straining slightly at defecation, she had been suddenly attacked with extreme dyspnœa and a sense of oppression at the heart. I found her in a state of asphyxia, cold, pulseless, deathly pale, lips and finger tips purple. I shall never forget her expression of anguish as she greeted me with, "Oh! Doctor, give me some air, or I shall die." Brandy, digitalis and ammonia were given immediately, and bottles of water were applied to her feet, along her limbs and under her arms. All, however, was in vain, for in thirty minutes from the time of seizure she was dead. After her death, I was informed for

the first time, that, during the night previous, she had complained of that "old feeling" in the region of the heart.

This was, I think, a typical case of heart-clot, and that it was dependent, somewhat, upon the antecedent rheumatism, I could have no doubt.

One case of any disease, is not enough to draw many reliable conclusions from, but such cases are so exceedingly rare that I have made bold to present it this evening as the subject of our discussion.

If all of these cases could be reported, we would in time be able to draw deductions from them, which would enable us to make a fight for prevention.

That I could find no evidence of endocardial disease, in no way proves that such disease was not present. We all of us have seen cases which could be detected only long months after the mischief is done.

I have very little to offer regarding treatment. Barker felt certain that he had prevented the formation of heart-clot by keeping his patient on her back for a long time after confinement, and guarding her from all necessity for muscular effort.

I would suggest plenty of alkaline mineral waters before confinement with small doses of digitalis if there is any indication of weak heart action. Small doses of bichloride of mercury would be indicated both as a tonic and for its power of overcoming the coagulating tendency of the blood. Beyond this little seems possible.

DISCUSSION.

Dr. MADDREN:—This is a subject which is of quite a little interest to me. I remember being called one Sunday morning in haste to a woman who had been recently confined, a neighbor's patient. I went immediately, but by the time I arrived, I found the patient dead, although she was apparently quite well fifteen minutes or half an hour before. It was between the ninth and twelfth day after confinement. We concluded that this was a heart thrombus.

I agree with the author that it is a very difficult thing to differentiate between an embolism and a heart thrombus. I suspect that when a thrombus forms in the heart, it, of necessity, extends more or less into the pulmonary artery, and perhaps even a post-mortem would leave it questionable where the clot originated—whether in the pulmonary artery from an embolism extending into the right ventricle of the heart, or whether it originated in the ven-

tricle and extended into the pulmonary artery—and I can appreciate that it would often be difficult to determine under those circumstances.

Dr. McNaughton:—A few weeks ago we had a case of heart-clot occurring about eight days after ovariotomy. The stitches had been removed, everything was looking fine and in every way favorable; she was feeling first-class. There was no previous history of rheumatism, and yet she had all the sudden symptoms and died. The post-mortem showed everything in good order at the site of the operation.

I suspect this accident occurs sometimes, not necessarily following child-birth, and it is a question whether that condition particularly favors it. We know that this occurs in men as well, where the origin has not been found. Dr. Maddren spoke of a case the other night of a man taken sick in the same way.

Dr. Maddren:—What was the condition of the heart found at the autopsy?

Dr. McNaughton:—I did not see it, but the clot was found extending into the pulmonary artery, but I do not think the origin of the clot was discovered.

Dr. Maddren:—The case to which Dr. McNaughton refers was a case of typhoid fever, followed by a double pneumonia. The patient was apparently convalescent and had been eating well for two or three days. I had every hope of his ultimate recovery, as he was getting along nicely, when I was summoned in haste, and found him in a cyanotic condition and gasping for breath. There was no obstruction to respiration anywhere in the chest. Listening to the heart I found it beating in a labored manner, and there seemed to be every evidence of heart thrombus. Nitro-glycerine and strychnia were administered hypodermatically. Unfortunately the oxygen can was empty, and the eloquent way in which that man looked at the can I shall never forget. In spite of all our efforts he died within fifteen minutes.

Dr. Chase:—I would like to inquire whether any of the gentlemen who have witnessed cases believed to be due to puerperal heart-clot, can testify whether there have not been marked evidences of asphyxia, more or less pallor, and a great deal of capillary stasis, so that the patient presented a decided purplish look around the mouth and nose?

Dr. Baldwin:—A few minutes before the death of my patient her mind was so clear that she cautioned the maid whom I sent in haste to the drug store to be sure and put on her rubbers before she

went out, as the weather was bad. That shows the difference between the asphyxia and fainting.

Dr. Maddren :—Both of the cases I mention were very clear in their minds.

Dr. Chase :—Dr. Baldwin's paper is a valuable contribution to a subject, the literature of which is scanty and fragmentary. I have seen two similar cases. In the first case I was sent for from a long distance, and when I arrived the patient was dead. It was about twelve days after confinement and she was feeling so well that they were going to take her out of bed and put her in a chair to take dinner, and on being put in an upright position she died, very suddenly. Some five years later I saw a case which I believed to be due to coagula, originating in the right side of the heart and plugging of the pulmonary artery, in which almost the same symptoms as mentioned by Dr. Baldwin and Dr. Maddren were present, with asphyxia and evident forcible interruption of the circulation to a degree which produced the utmost oppression and great distress, attended with lividity of the lips and evidences of capillary stasis.

Dr. F. Baldwin :—I would call attention to the practice of applying a tight bandage to the patient after delivery—patients who are supposed to suffer from some form of heart disease. Not very long ago I saw an old lady, sixty-seven years of age, who had in accordance with the popular fashion of the time, when she was a young girl, learned to lace so tightly that her ribs over-lapped, and she told me she was never able to go without a corset for one moment after rising without a feeling of faintness. She had some form of valvular trouble. I have seen the same thing occur after the removal of water from the abdominal cavity in patients suffering from heart trouble, and I believe it also occurs from the removal of abdominal tumors. The patient almost dies of faintness after the operation. It is my practice whenever I attend a woman who suffers from any valvular disease of the heart, to see that she is well bandaged for some time after delivery. If the pressure of a fœtus growing there for nine months is taken away so suddenly the result may be alarming, if not serious.

LOCAL TREATMENT FOR "COLDS."

When sneezing occurs, before inflammatory action has set in use the following as a snuff or with insufflator. ℞. Sodii salicyl. ℥ ss.; Acid boraci (pulv.) ℥ j.; Cocain. hydrochlor. gr. xxij. Mix by agitation, not in a mortar.

REPORT OF A CASE OF GLIO-SARCOMA.

BY RICHARD SLEE, M.D.,

Pathologist to the Norwegian Hospital; Pathologist to the Central Throat Hospital and Polyclinic Dispensary; Assistant Pathologist to the Methodist Episcopal Hospital; Assistant to the Department of Physiology, Hoagland Laboratory.

(This report received the Dudley Gold Medal, Long Island College Hospital, Class of 1891.)

Patient was an Italian emigrant, twenty-seven years old, and of his history previous to admission to the Long Island College Hospital absolutely nothing is known. He was transferred from the Barge Office on the morning of November 23d, in a semi-comatose condition, in which state he had been since landing, two days previous to his transfer to the Hospital.

He was placed in bed and did not attempt to leave it, nor did he give any trouble, save that he had involuntary evacuation of urine; his bowels, being constipated, moved only two or three times while he was in the ward. He was examined shortly after his admission to the Hospital. His temperature, pulse and respiration were normal. He could with great difficulty be slightly roused, but not enough to understand in the least anything said to him. He only once or twice muttered a few words. His right pupil was slightly larger than the left, and was little, if at all, responsive to touch. The internal rectus on right side was paralysed, causing external strabismus.

The head was kept rotated to the right, and he had persistent *priapism.*

He was brought into the Hospital with shackles on his hands, and when removed, as they were a number of times, he at once began to masturbate, before the nurses or any one present. This was the only voluntary act he performed, and it was found necessary to keep the shackles on him up to the time he died.

On the afternoon of the 24th his temperature ran up to 102 1-2–103°, respirations 40 to 50 per minute, shallow and somewhat irregular in character, pulse 130–140, and he remained in this condition till death, except that his respirations became very rapid about twenty minutes before death, and he died rather suddenly from apnœa, about 6.30 P. M., on November 26, 1890.

Diagnosis not positively made, but from the few symptoms present, was thought to be some serious brain leison.

Treatment.—Mainly stimulants. The only nourishment he received was a little milk poured into his mouth. Solid food when

placed there was neither swallowed nor rejected, but was allowed to remain unheeded.

The obscureness of his malady, as well as the few interesting symptoms presented, called for an autopsy, which was made the next day, November 27, 1890, 3 P. M.

AUTOPSY.

Inspection.—Body somewhat emaciated. Rigor mortis well marked. No œdema. Globes of the eyes soft. Cornea translucent. No apparent marks of violence.

Diaphragm.—Left side, fifth rib. Right side, fourth inter-space.

Thorax.—Sternum normal. No fluid in either cavity. Old adhesions in both cavities.

Heart.—Small, firm. Myocardium thick and dark in color. All the valves normal.

Lungs.—Left, small, pleural surface thick and rough, lung leathery and does not crepitate on pressure. Lower lobe congested and œdematous. Right lung same as left.

Spleen.—Trifle large, sut surface rough and dark, stroma increased.

Kidneys.—Left, small, firm, dark, capsule not adherent, cortex thin, markings somewhat indistinct. Right, smaller, but otherwise resembles left.

Liver.—Small, firm, cut surface dark and smooth.

Intestine.—Normal.

Spinal Cord.—Somewhat soft.

Brain.—Convolutions somewhat flattened, generally soft and œdematous. On right side of medulla oblongate, involving also portions of the pons Varolii, cerebrum, cerebellum and the pia mater, is situated a small cuboidal tumor, not at all sharply defined. This tumor on inspection is found to extend deeply into and through the various structures named (its superficial location and area is shown in Drawing 1.—A).

The microscopic examination shows the tumor to be a glio-sarcoma, the sarcomatous portion predominating—a somewhat rare form, as in the 100 cases tabulated by C. K. Mills and J. H. Loyd only one was of this variety.

Glioma proper was found in 16 of the cases, sarcoma in 15 cases. The sarcomatous portion is of the small, round cell variety (not alveolar) and has completely obliterated the normal structure of the part involved. They are very malignant and grow rapidly. That this tumor was large enough to produce pressure there can be no doubt; also that some of the symptoms were due directly to

pressure may be surmised. Some were without doubt due to the destruction of the histological elements of the part by the growth, and the extensive inflammation of the surrounding tissue had a direct influence as well as the anæmia of distant parts by the obliteration of the arteries, as shown in Figure 2—A. B. C.; also reflex action through communicating filaments on distant structures may have given rise to functional disturbances of those parts.

The case is an extremely obscure one and not within the power of the writer to analyze, except in the most simple fashion with the help of standard authorities. The cause of the tumor, in the absence of all previous history cannot even be surmised and the various theories advanced by Conheim, Virchow, and others are too lengthy and well known to be repeated in this paper. We will simply take up the symptoms as they are presented, and trace if possible to the cause. Beginning with the symptoms of priapism and masturbation.

Eckhard in his research on the lower animals has found that erection of the penis can be produced by stimulation of the spinal cord and the pons as far as the peduncles.

The erection centre lies in the lumbar region.

The nerves for the deep artery of the penis arise from the first and third sacral, while the motor nerves for the ischio cavernosum and deep transverse perineal arise from the third and fourth sacral. The first set may be partly excited by the brain.

In his researches Eckhard has found that the act of erection is controlled by the vaso-dilator centre in the medulla oblongata—its exact location is not for a certainty known. The nervi erigentes called by Gaskell the pelvic splanchnic, are the nerves connected with the act of erection. These nerves contain vaso-dilator fibres which can be excited in part reflexly from the sensory nerves of the penis, the transference centre being in the erection centre of the spinal cord. But the centre for erection is controlled by the dominating vaso-dilator centre in the medulla oblongata, the two centres being connected by fibres within the cord.

If the nervi erigentes be severed and the medulla stimulated, no action is shown in the penis, but if the peripheral ends of severed nerves be stimulated, the sinuses of the corpora cavernosa dilate and erection takes place.

But we must not underestimate the psychical activity of the cerebrum. As in anger, shame, etc., we have dilatation of the blood-vessels of head and face, so we have a dilatation of blood-vessels of penis when attention is called to the parts. While the vaso-dilator centres of the medulla are not definitely known, the tumor in this

case extended in all directions to such an extent, that we would probably not err much, if we say that the phenomenon of priapism observed here was due wholly or in a large degree simply to the pressure exerted by the growth or the deranged nutrition.

Whatever psychical influence there may have been in the beginning of the trouble in his comatose condition, did not in all probability continue, but as his priapism did to the last, we may reasonably say it was due to the presence of the tumor acting on the centres of the medulla.

If the tumor had been more sharply defined it would be of great value as an aid to cerebral localization, but its involvement of so much of the structure of the medulla and the neighboring parts,

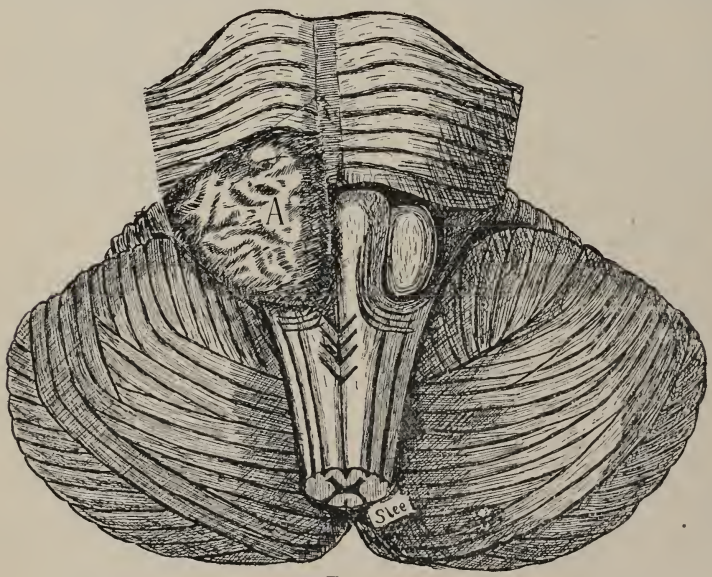


FIG. 1.

destroys its usefulness in this line, save in a general way. That there is an erection centre in this neighborhood cannot be doubted, both from the cases reported and the various experiments which have been performed upon the lower animals, but its limits cannot be sharply drawn.

In support of Eckhard's observations it was found that in eighty-two cases reported by Erb, of injuries to the spine and cord, priapism occurred in eighteen; it was most common in crushing of the cervical region, rarer in dorsal and never found where fracture was lower than third lumbar.

In the one hundred cases before mentioned of tumor of the brain in all locations it was observed in two cases.

Acton (in his fifth edition on Reproductive Organs) reports a case of a man with satyriasis so marked he would masturbate in front of ladies. Autopsy revealed a tumor (size of a split pea) situated in the pons Varolii.

Priapism has been observed after repeated coitus, in gonorrhœal inflammations, in acute poisoning, from cantharides; not uncommon in acute myelitis and renal calculus. Drs. G. L. Peabody, G. F. Wetherell and Salzar have reported cases where it has occurred



FIG. 2.

in leucocythæmia; also in New York Medical Journal, September 1880, two cases are reported.

The interference with the nutrition of the part, as is shown in Figure 2, in which we have among other changes an endarteritis and periarteritis obliterans, causing persistent anæmia of the parts beyond, may have been the cause, independent of the pressure exerted by the tumor, and through this channel probably exerted its influence over a larger area than the actual pressure did.

Rotation of head, according to Schiff is caused by a partial lesion of the most posterior portion of the transverse fibres of the pons, and has been demonstrated by Schiff, Vulpian and others by operations on lower animals, causing rotation of the cervical vertebræ.

The strabismus, anæsthesia of the conjunctiva, and dilated pupil due to paralysis of the third nerve, depend upon the fact that the pons combines in itself or has on its immediate borders, nerve tracts, both motor and sensory in great complexity, from or to almost every special or general region of the body, among them the origin of the third nerve.

The increased pulse, temperature, and difficult deglutition towards the termination of the case are classed by the authorities (Rosenthal) among the symptoms of continued pressure upon the medulla.

It has been pointed out by several of the observers, among them Lockhart Clark, Provost, Brown-Sequard and Bastian, that in the lesions of the cerebrum, the rotation and deviation are to the affected side of the cerebrum as in this case, and in limited diseases of the pons the deviation being to the opposite side, but as the tumor extended to the left of the median line, also involving a portion of the cerebrum, in this case we can account for the deviation from the rule with reference to lesions of the pons, accepting the lesion of the cerebrum as the cause in this case.

Rosenthal says that irritation of the peduncles of the cerebrum is followed by contraction of the bladder, and owing to paralysis of the sphincter, involuntary evacuations of urine take place; and as the peduncles were more or less involved, it accounts for this symptom in this case, if these observations be accurate, which we have no reason to doubt.

The constipation is not clearly explained, but has been noticed in most cases of tumor of the brain, and in this case his abstinence from solid food lessened the call for evacuation of the bowels.

The increased respirations noticed in this case and in many others for some time before death, were due to stimulation of the vagi at or near their origin in the medulla, and the fact that he died suddenly from apnœa was due to the destruction of the single or double strands of nervous matter running downwards in the substance of the medulla oblongata (according to Giercke, Heidenhain and Langendorff).

These strands are said to arise partly from the roots of the vagus, trigeminus, spinal accessory and glosso-pharyngeal (Meynert) forming connections by means of fibres with the other side, and de-

scending as far downwards as the cervical enlargement of the spinal cord (Goll). According to this view, these strands represent an inter-central band connecting the spinal cord (the place of origin of the motor respiratory nerves) with the nuclei of the above-named cranial nerves, and their destruction, by the growth severing the connection of the respiratory centre in the medulla from the motor centres in the cord, caused cessation of the respiratory movements and death from apnœa.

The train of symptoms presented in this case are fairly constant in tumors of the brain. In the one hundred cases before referred to the pupils were enlarged on affected side in eighteen cases; strabismus on affected side, nineteen cases; head permanently rotated to left seven cases, to right two cases; anæsthesia of conjunctiva on the affected side, two cases. Many of the cases reported passed into the semi-comatose condition observed in this case some time before death, and died suddenly from apnœa.

The condition of the patient from the time he was admitted till death, prevented accurate observations of his case such as ophthalmoscopic examinations, also the condition of his special senses which would be instructive as well as interesting if known.

In conclusion we may say that the case terminated as all cases of this class must, namely, in death. Its inaccessible position as well as the absolutely vital parts involved, aside from the malignant character of the growth, precluded all operative interference.

In the treatment of tumors of the brain, we can unfortunately do but little more than treat the symptoms and ameliorate the various conditions as they arise. In morphia and the bromides we have drugs which can often control the most urgent and frightful symptoms occurring in these fatal cases. At times we can also use with good results cannabis indica, ergot and hyoscyamus. Leeches may be applied to the temples or behind the ears. Ice or hot water, dry or wet cupping on back of neck.

The syphilomata offer us the best inducement to try curative measures, but even here it is disappointing. Cystitis, pyelitis, over-distention of the bladder and fæcal accumulation, together with the other serious complications so often present in these cases, must be closely watched and appropriately treated. This case while an obscure one, affords opportunity to prove the accuracy of the observations of the authorities quoted, the symptoms in this case harmonizing in the main with those referred to.

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DESCRIPTION OF CUTS.

FIG. 1.—A Shows surface area, and location of tumor.

FIG. 2.—Shows the typical compound tumor. The small, round cells studding the network are sarcomatous. The network is formed by the filaments of the neuroglia or "spider" cells of the glioma, and the larger and most prominent spots are the bodies of these cells. A, B, C, show quite clearly the obliteration of the cerebral arterial supply. The arteries are in different stages of involvement, A being completely obliterated and the lumen of the vessel filled with the products of inflammation; at B we have an artery in a state of periarteritis, with a minimum encroachment of its lumen, but a marked thickening of its walls; C. shows one in an acute inflammatory stage, the walls of the vessel being filled with small, round cells of inflammatory origin, its condition being one of endarteritis obliterans with a marked diminution of its calibre.

N.B.—This article when submitted was illustrated by a number of photo-micrographs made by the writer, which could not be reproduced owing to the destruction of the plates.

REORGANIZATION OF THE STAFF OF KINGS COUNTY HOSPITAL.

The reorganization in the staff of this institution, the details of which are given elsewhere, is the most important step which has ever been taken in the management of medical charities in this country. We congratulate both the profession and the Commissioners of Charities.

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EDITORIAL.

PRIZE ESSAY ON HOMŒOPATHY.

In the JOURNAL of July, 1892, we announced that a prize of $100 had been offered by Dr. George M. Gould, of Philadelphia, for the best essay showing "the ridiculous pretentions of modern homœopathic practice." We learn from the Medical News that thirteen essays were received in competition for this prize and were carefully read by the judges, Prof. S. Solis-Cohen, Prof. A. P. Brubaker and Dr. George M. Gould. Without knowledge of the opinion of the others, each judge wrote his own opinion, naming the essay he considered best, and (in case of loss or other accident) also that considered the second best. Upon comparing the three judgments it was found that they were identical. The essay, signed *Iconoclast*, was deemed the best, and that with the signature *Jabeni* was the second choice. This unanimity of independent opinion, where there were so many essays of a very high order of merit, is a gratifying fact. Upon breaking the seal of the envelope of *Iconoclast* it was found to contain the card of Dr. William W. Browning,

155 Reid Ave., Brooklyn, N. Y., to whom the prize has been sent.

We understand that this essay will be published in convenient form and in large quantities for widespread distribution. We heartily congratulate Dr. Browning on his success.

GERMAN MEDICAL SOCIETY.

This Society held its annual dinner at Arion Hall recently, and, if we may judge from published accounts, it was a very enjoyable affair. Dr. Robert Schmeltzer responded to the toast of "The German Medical Society," and Dr. Reuben Jeffery to "The Future of Medicine." In the course of his remarks he said: "I wish to ask your co-operation to-night to aid in the battle to break the iron fetters that encompass our liberty and destroy our professional sovereignty. I cannot conceive anything more suicidal than an army of intelligent men binding themselves in the harness of limitations. I hope to live to see the day when parties will be no more. In the medicine of the future, doctors will not be pathists; they will be physicians. I hope to live to see the day when that pillory we call the code shall be wiped out of existence. In the medicine of the future it will not be necessary to have a code of ethics. Every physician will be a gentleman. If a man of intelligence is not a gentleman, a code will never make him one."

Remarks were also made by Prof. A. Jacobi, Dr. A. H. Ritter, Dr. H. Bender and Mr. H. A. Powell.

DIRECTORY FOR NURSES.

We had occasion some months ago to call the attention of the profession to the serious responsibility which was assumed in the selection of a nurse, and to advise them that the only way in which its members could relieve themselves of it was by obtaining nurses from the Directory. We referred at the time to an instance in which a male nurse had betrayed the confidence reposed in him by his employer. Another instance is just reported in the daily papers, in which the nurse, also a male, took his patient, an imbecile, out for a walk, and after taking him into a hallway robbed him of his gold watch, two diamond rings, a scarf pin and $30 in money, and then deserted him. The patient was subsequently found wandering in the streets by a policeman.

MEDICAL CYCLE CLUB.

So far as we know, no organization with the above title is as yet in existence, certainly none in this city, but we know of a number of physicians who "ride the wheel," and their coming together to form a club is, we think, only a question of time. Indeed we are confident that the movement, which is quite general throughout the country, looking towards the improvement of the roads, will have its effect upon those in the vicinity of Brooklyn. If our information is correct an excellent road for wheelmen, between the Park and Coney Island, will be constructed by Park Commissioner Brower as soon as the weather is propitious, and why should not physicians avail themselves of it? The ministers of Brooklyn have already formed the "Clerical Cycle Club," and its members are frequently seen spinning along the Park roadways.

We hope that there are in Brooklyn no women as narrow-minded as the woman in the western part of New York State who wants to have her pastor dismissed on the ground that he rides a bicycle and studied medicine in his earlier years. That suggests the story of the woman who wrote the following note to the teacher: "Pleas don't teche my Mary Jane any fisiology. I don't want her to know about her innards."

QUEENS COUNTY MEDICAL SOCIETY.

A special meeting of this organization was held January 31st at 87 South Ninth St., the residence of Dr. Reuben Jeffery. The following papers were read, "Vis Medicatrix Naturæ," by C. L. Hogeboom, M.D., Cedarhurst; "Forceps in Delivery," by J. P. Heyer, M.D., Farmingdale; "Hyper-chloridry," by Jacob Fuhs, M.D., Brooklyn; "The Infectious Character of Croupous Pneumonia," by R. F. MacFarlane, M.D., Long Island City; "The Importance of Differential Diagnosis in Aural Diseases," by W. A. Dayton, New York. The members were handsomely entertained by Dr. Jeffery, who tendered to them in the evening a reception, at which were present many of the physicians of Brooklyn.

Some of the papers which were read will be presented in a future issue to the readers of the JOURNAL.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the March meeting, Dr. L. F. Criado will read a paper entitled "Our Dispensaries; Hospitals; Philanthropy; Frauds, and the Necessity of Medical Reform."

All regular practitioners of medicine and medical students are invited to attend the meeting and participate in the discussion, and to remain as guests of the Association after the meeting.

COCILLANA.

The March Meeting of the Medical Society of the County of Kings will be occupied by several distinguished gentlemen who will discuss this new remedy. Prof. H. H. Rusby, M.D., of the N. Y. College of Pharmacy will speak on Cocillana, its botany and pharmacognosy, with specimens and lantern illustrations. Prof. Rusby is well known to the scientific people of Brooklyn through his admirable course in botany, delivered before the Brooklyn Institute last year. Prof. Virgil Coblentz, also of the College of Pharmacy, will treat the Chemistry of the drug, and Prof. R. W. Wilcox, of the Post-Graduate School, will discuss its therapeutics.

PROCEEDINGS OF SOCIETIES.

BROOKLYN GYNÆCOLOGICAL SOCIETY.

A regular monthly meeting of the Brooklyn Gynæcological Society was held at the Society rooms, 356 Bridge Street, on Friday evening, December 2, 1892, at 8.30 o'clock.

The President, Dr. Walter B. Chase, in the Chair.

Present: Drs. Chase, Maddren, McNaughton, F. Baldwin, L. G. Baldwin.

The minutes of the November meeting were read and approved.

Presentation of specimens.

Dr. Wm. Maddren presented a decidual cast of the uterus, which had been passed some two days previous by a patient who presumed herself nearly three months pregnant, and who gave all the symptoms of pregnancy, including mammary secretion. From its

gross appearance, it might easily be taken for a decidua, cast off from the uterine cavity, or the result of a membranous dysmenorrhœa. He believed, however, that close inspection would show it to be a decidua vera. It had the general shape of the uterine cavity; there was a sac, and what might have been the remains of a ruptured cord, and, apparently, some after-birth tissue, and tissue that had the appearance of ordinary decidual membrane. There was also present on the surface of the membrane a number of enlarged sacs, or glands, which looked like a group of cysts. Dr. Maddren was unable to determine whether these were pathological or physiological in character.

He was able to recognize, in the shape of the cast, the location of one horn of the uterus, but was unable to determine whether the portion, in which were the evidences of pregnancy referred to, was located in the other horn, or in the cervical portion of the uterus. If in the cervical portion, then the pregnancy was so low down that it would probably have been a case of placenta prævia. On the other hand, if the location of the pregnancy proved to be in the horn of the uterus, then the question would arise whether it was a tubal pregnancy, or just within the uterus, close up to the tube.

Drs. Chase and McNaughton believed that the site of the pregnancy was, in all probability, in the second horn of the uterus, which would make the pregnancy a tubal one.

Drs. L. G. Baldwin and F. Baldwin believed that the site of the pregnancy was probably in the cervical portion, and that it would have been a case of placenta prævia.

Dr. Maddren was unable to determine which it was, and, on motion, he was requested to submit the specimen to the Society Pathologist, Dr. J. M. Van Cott, Jr., for examination and report.

Referring to his specimen, Dr. Maddren said:

This patient has passed through a similar experience twice before. On both occasions she thought she was about three months pregnant, and the substances passed had precisely the appearance of that expelled this time. My first impression was that I had to deal with an old case of membranous dysmenorrhœa, but the patient having gone three months without menstruating, and having suffered much for the last two months from nausea and vomiting, with the breasts giving evidence of slight secretion, I concluded it was pregnancy.

Dr. Chase:—Has she ever borne a child at full term?

Dr. Maddren:—One, a few years ago—a case of puerperal eclampsia, and the child was destroyed or still-born.

Dr. Chase:—There was no evidence of any special disease?

Dr. Maddren :—I think not. It was a case of puerperal convulsions, which were extreme. It was urgent to empty the uterus, and we did not regard the child. It was a case in which Dr. McCorkle and myself were interested, and we were anxious only about the mother. The child was probably dead before we attempted to deliver it.

Dr. McNaughton :—What became of the fœtus in this case?

Dr. Maddren :—I have no knowledge of it. I did not see it, and the patient was unable to say that any had been passed, but I think we may decide from the appearance of the cast that she was pregnant.

Dr. L. G Baldwin :—I think it is a case of pregnancy, except possibly the membrane is not so thick as it would be in a pregnancy of three months. It is more the thickness of membranous dysmenorrhœa.

Dr. Maddren :—It is thinned somewhat because it has been in water three days. It was a little thicker and more velvety before it was put into the water.

Dr. Frank Baldwin presented the paper of the evening entitled, "Puerperal Heart-Clot," occurring within the first two weeks after confinement, with special reference to its relation to rheumatism.

Discussion by Drs. Maddren, Chase and McNaughton.

EXECUTIVE SESSION.

The Secretary announced the result of the ballot on the name of Dr. J. L. Kortright, and the Chair thereupon declared Dr. Kortright elected a member of the Society.

Owing to the small attendance, the amendment to the By-Laws which Dr. Maddren had proposed to submit was held in abeyance, and the Secretary was requested to notify the members on the next regular call for meeting that an amendment to the By-Laws was pending.

On motion, the meeting adjourned.

L. Grant Baldwin, *Secretary.*

PROGRESS IN MEDICINE.

DISEASES OF THROAT AND NOSE.

BY WM. F. DUDLEY, M.D.

CROUP OF THE NOSE.

J. Sedziak (Journ. Lar., Rhin. and Otol. Vol. vi., No. 9). The author states his positive conviction that croup of the nose is a pathological process, entirely separate and distinct from diphtheria. This assertion is corroborated by fifty cases reported by specialists and also the bacteriological examinations of Fränkel, Leyden and Seifert, who failed to discover the Klebs-Löffler bacillus, which is acknowledged to be specific in diphtheria.

The following typical case is cited: The patient, a female, picked off a crust in right nostril, the next day the nose was swollen, and on right side an acute catarrh appeared, accompanied by general depression, chills and fever (38.6 ° C.).

Five grains of quinine controlled the fever, which did not again appear. Examination of patient showed nothing abnormal in larynx, pharynx, or glandular system.

The nose appeared swollen and slightly reddened, especially on right side.

The left nostril was partly, the right nostril entirely obstructed by membrane. This was white in color, thick and covered the septum completely, also the inferior turbinated tissue. Membrane bathed in serous acrid secretion. The portions of mucous membrane not covered by croupous membrane were much inflamed, but no ulcerations appeared.

Posterior rhinoscoping showed membrane of naso-pharynx to be normal in color. Ears healthy.

The nasal cavities were insufflated with pure aristol and wad tampons covered with Peruvian balsam and resorcin ointment introduced.

These applications were renewed daily after thorough cleansing of the nose with solution of boracic acid. After three days of this treatment, the obstructions had entirely disappeared in the left nostril and in right side of the nose only the lower portion of sep-

tum and inferior meatus were covered with membrane. A slight catarrhal secretion flowed from right nostril. This stage was rapidly followed by recovery. At no time during this attack did epistaxis occur.

The patient continued to nurse her child, which remained unaffected by mother's illness.

Cultures were made from membrane, and the Klebs-Löffler bacillus could not be found.

A rabbit was inoculated with portion of sterilized membrane from the patient's nose; the animal's temperature remained normal except a slight rise on seventh day, which subsided shortly. No albumen appeared in urine; wound healed well. No paralysis resulted from inoculation. The author maintains that the examination of the nose of the patient evidenced, without doubt, the existence of a membranous rhinitis, and that the history of the disease and the experiments proving the absence of contagion, all support the claim for a membranous rhinitis distinct from diphtheria.

THE FUNCTION OF THE TONSILS.

Gulland (Edinburgh Med. Journ., Nov. '91.) The faucial, lingual and pharyngeal tonsils are important factors in the reproduction of leucocytes. The leucocytes, so formed may be carried into the general circulation by lymphatics, may become fixed as stationary cells in the tonsils or may pass through the epithelial cells lining the crypts.

On the surface of the tonsil they act as ready absorbents for micro-organisms, arrest their progress into the general system and thus protect the body from them. The faucial and lingual tonsils and the infiltration of leucocytes under the velum act as guarding zone between the mouth and alimentary canal, and the pharyngeal and tubal tonsils and leucocyte infiltration of upper palatal surface form a ring at upper extremity of respiratory tract. During health the tonsils do not act as absorbents, the entrance of any foreign body into the tonsil being prevented by the constant outward stream of leucocytes. During disease the regular production of leucocytes is interfered with, their outward flow is interrupted and septic micro-organisms may enter tonsilar tissue, causing local or general infection.

TREATMENT OF NASAL STENOSIS BY INTRA-NASAL TUBES.

Gibbons (N. Y. Med. Journ. Vol. lvi., No. 2). Normal nasal respiration demands following conditions:

1. Free nasal passages.

2. Contact during inspiration and expiration between air and nasal mucous membrane.

3. A normal state of the nasal mucous membrane.

To satisfy these conditions in collapsed nares, all abnormal growths and deformities, so far as possible, should first be removed.

To maintain the patency of the nostril the author recommends metal tubes either flat or crescentic on cross section, made in fifteen sizes. The walls of the tubes are filled by minute perforations, allowing air and mucous membrane to come in contact. The metal may be gold, aluminum or silver; these are less irritating than rubber.

These tubes have proved very useful in stenosis of hay fever; before inserting them a thirty per cent. solution of cocaine should be used in nose.

A sieve of metal or silk thread may be placed at end of tube and should be frequently moistened with antiseptic solution, this will moisten air inhaled, also prevent the entrance of dust or germs into the nasal cavity.

SURGERY.

BY GEORGE RYERSON FOWLER, M.D.

SIMULTANEOUS INGUINAL AND CRURAL HERNIÆ ON THE SAME SIDE.

P. Berger (France Med., November, 1892, Centralblatt, No 30).

B. found in the statistics of the central office bureau in Paris among 10,000 herniæ, 111 cases in males and 70 in females, of simultaneous inguinal and crural herniæ on opposite sides in the same individual. He calls attention to the fact that the herniæ are not permanently reduced by a combined inguinal and crural truss unless the strap connecting the two buttons passes in a horizontal direction.

Greater interest is evoked by inguinal and crural herniæ occurring on the same side in the same individual, as they constitute a well characterized and heretofore little known class of herniæ. B. among 10,000 cases found this condition 225 times in males and 15 times in females. These herniæ are due primarily to a weakness in the whole inguino-crural region, and therefore are usually observed in weak and lean individuals, very often in old men with chronic affections of the air passages. The inguinal hernia as a rule, is direct, externally the hernia appears as a tumor, a depression existing at Poupart's ligament. Anatomical examination

of some cases revealed the fact that usually the whole inguinal region is pushed forward; that two separate sacs arise only when Poupart's ligament does not yield. The neck of the sac is not generally well marked, and the openings are very wide, consequently the herniæ are always reducible; incarceration was not observed in a single instance. It was, however, sometimes difficult to keep the herniæ reduced by means of the truss, while in other cases a common inguinal truss with very large "Pelotte" was effective.

OPERATIVE TREATMENT OF TUBERCULOSIS OF THE PERITONÆUM.

Lindner (Deutsche Zeitschrift für Chirurgie, Vol, xxxiv., p. 448).

L. operated upon three cases of tuberculosis of the peritonæum. The first case refers to a boy of five years, who had been tapped for ascites, without permanent benefit. After laparotomy during which about three litres of transudation fluid were removed and numerous peritoneal tubercles demonstrated, recovery took place in spite of an intercurrent parotitis, and a temporary re-accumulation of fluid. A persistent fungosity in the lower cicatricial angle of the wound finally healed at the seashore. Eleven months after the operation the patient had completely recovered. In the second case, a woman of fifty-seven, with a tumor simulating ectasis of the gall bladder, was operated upon. Death occurred seven days after the laparotomy, from tuberculosis of numerous organs and recent peritonitis. The third case refers to a woman of twenty years. She was laparotomized and a cavity of ascites which had been encapsuled by newly formed connective tissue and adhesions, was found. Death occurred at the end of four weeks from suppuration and exhaustion. L's own cases are followed by five operations by Saenger (Leipsig), and by a résumé of all published cases. Finally L. discusses some peculiarities of tuberculosis of the peritonæum .That females are most generally affected due to infection through the genitals; he suggests that the bacilli enter by that way and produce an infection only reaching the peritonæum. Recoveries are explained to occur by L. through the well-known absorbing and digesting power of the peritonæum; this is the more effective, the smaller and more circumscribed the area of the disease is the greater the vital energy of the still existing surfaces of healthy serous membrane is (compare favorable results in children).

The remarkable effect of laparotomy may result from the removal of the abnormal pressure of the fluid, followed by renewed

permeability of the collapsed lymphatic channels. This cannot be obtained by mere tapping. The process of repair seems to be a double one. Either the tubercles disappear directly without formation of adhesions, a kind of primary intention, or extensive adhesions are first formed leading to a process of granulation or healing by second intention.

ELIMINATION OF TETANUS POISON BY MEANS OF RENAL SECRETION.

Brushchettini (Rif. Med. April 11, 1892).

B. demonstrated in September, 1890, that the blood and kidneys of animals, inoculated with the poison of tetanus for the purpose of experiments by Fizzoni and Cattoni, contained the same. Recently he had opportunity to make experiments with the urine of two men suffering from tetanus—cures resulted by means of Fizzoni's and Cattoni's antitoxine. In the first case on the fifth day of the disease, before the use of antitoxine, one cm. of urine was injected into a rabbit—in nine days tetanus resulted, ending fatally. In the other case on the second day of the disease, only primary symptoms of tetanus existing, three cm. were injected in a mouse and rabbit. These animals died in twenty-four and thirty-six hours afterwards, with violent tetanic spasms.

GYNÆCOLOGY.

BY WALTER B. CHASE, M.D.

FADS IN GYNÆCOLOGY.

(Editorial, New York Journal of Gynæcology and Obstetrics, November, 1892.)

The *curettage and drainage* fad claims our attention. This is a fad rejuvenated by asepsis, and very attractive it is. We have no fault to find with this operation *per se*, but have, on the contrary, expressed our admiration both by pen and in practice of its beneficial effects when indicated. But as a fad it is too commonly believed to be a "cure-all" for every condition of disease which does not clearly indicate laparotomy. It is the same fad-curse which dogs the steps of hysterectomy and which bids fair to bring this operation into disuse in many of its necessary or at least very important applications.

Apostoli's treatment for fibroids has been and is, even to-day, a pronounced fad. The results claimed for it and believed of it by many of its votaries have been marvelous. It is true that unlike

the majority of other medical fads it has not been, except when used for its electrolytic effect, of positive physical injury to those upon whom it has been used, and yet it is responsible for much disappointment and loss of time and money. When used for its electrolytic effect, it has proved a most dangerous weapon in the hands of many over-enthusiastic practitioners. Instead of proving a cure for fibroids as was once fondly hoped of it, it has now taken, in the opinion of the majority of gynæcologists, its proper place as an important aid in the treatment of many distressing symptoms connected with these tumors, whose growth it may retard and whose size it may even diminish—at least for a time. It is undoubtedly the best therapeutical agent at our command for this disease but like other good things it has been much misused in its character of fad.

CANCER OF THE BREAST.

Shrady (Med. Record, Nov. 12, 1892). The sooner a breast is amputated for malignant diseases the better, operations—even against odds—so long as there is prospect of getting safely beyond the infiltrated area are advised. While cancer is usually an infiltrating disease, its focus of malignity is at the place of origin, and but a short distance around it, except when it invades the line of lymphatics immediately connected with the original growth.

Remove the whole breast, including nipple and the usual elliptical area of skin. Experience demonstrates that in the first operation all the infected glands in axilla and neighborhood should be removed, though caution must be used not to injure the axillary vessels and nerves.

Mistakes in diagnosis should be avoided, otherwise the breast may be amputated for simple benign growths. Fortunately there is sufficient time for the proper study of suspicious cases.

While it is proper to take desperate chances with some cases, others should be refused. He quotes the experience at the New York Cancer Hospital, that in cases where the cancer of the breast is unusually large and the chain of lymphatic infiltration extends under the pectoralis minor and supraclavicular space, the rule is not to operate. So also tumors which commence on the inner or sternal margin of the mammæ are less promising than those upon the outer margin.

He also mentions two forms of malignant growths which are inoperable, atrophic carcinoma in elderly persons, and the rapidly infiltrating, which appear to invade the entire breast, giving the

organ an even hardened enlargement with œdematous pitted surface resembling rind of orange.

HYDRASTININ FOR UTERINE HÆMORRHAGE.

Gottschalk (Therapeutische Monatshefte, May, 1892,) has already written of the use of this drug for uterine hæmorrhage, but now after more extended use speaks more confidently in its praise. Sometimes he uses it by subcutaneous injection and sometimes internally. More than $\frac{5}{6}$ of a grain three times a day should not be given.

Of course, it is not to be supposed that we possess in hydrastinin a sovereign remedy for all possible forms of uterine hæmorrhage; only in certain kinds of menorrhagia and metrorrhagia can one be confident of success, and then it is chiefly palliative. The hydrastinin is not calculated to stop immediately a profuse uterine hæmorrhage. This is explained by its physiological properties. Hydrastinin acts exclusively upon the vascular system, especially upon the vascular walls, causing vascular contraction, but not a vascular closing, such as is necessary in puerperal hæmorrhages; for this purpose it cannot replace ergot, which acts directly upon the muscle of the uterus. Ergot is preferable in all cases where a contraction of the uterine muscles is to be obtained. Gottschalk has also not found hydrastinin of special value in myoma or carcinoma, nor been able to observe even a lessening of the hæmorrhage in non-operative carcinoma.

Gottschalk summarizes his conclusion as follows, viz.:

1. First of all, in those uterine hæmorrhages which are traceable to a pronounced congestion of the uterus. To these belong, above all, the often very profuse menorrhagias of spinsters, in whom there is no pathological change in the condition of the genitals. In some of these cases it is possible to obtain a permanent result, so that even after discontinuing the remedy the menstrual flow remains smaller.

2. Also in hæmorrhages, which have their pathological and anatomical cause in endometritis, hydrastinin will lessen the quantity of blood; but here, according to his experience, the action is only palliative, not being sufficient alone to cure the local cause of the trouble.

3. For prophylactic or intramenstrual use, hydrastinin is useful before or during the first returning profuse menstruation after an abrasion of the uterine mucosa. It is well known that this menstruation, usually occurring after six weeks, is often very profuse. In the very cases where there was great loss of blood before the

operation, it is of great importance to prevent further profuse hæmorrhage. This is possible if the treatment with hydrastinin is begun several days before the expected menstruation, and, if necessary, continued during the duration of the menstruation.

4. Menorrhagias caused by retroflexio uteri are best treated by correction of the malposition ; but for cases of fixed retroflexion, where the reposition is not yet possible, hydrastinin is a commendable remedy.

5. Secondary uterine hæmorrhages—*i. e.*, those caused by a change of the adnexa and their surroundings—offer a large field for the successful use of hydrastinin. To these belong the menorrhagia and metrorrhagia with pyosalpinx, oöphoritis, ovarian tumors, and exudations. Of course, the cause of the trouble is not influenced by the remedy.

6. Climacteric menorrhagias are much diminished by a faithfully carried out hydrastinin treatment.

SALOL IN TREATMENT OF ACUTE AND CHRONIC CATARRH OF THE BLADDER.

Arnold (Therapeutische Monatshefte, May, 1892,) has used salol with satisfactory results in catarrh of bladder.

His conclusions are: 1. Salol makes alkaline urine acid. 2. It removes the foul odor. 3. The cloudy urine clears up, the purulent, slimy sediment diminishes steadily, grows lighter, flaky, and usually disappears altogether. 4. As a rule, the quality of urine is lessened. 5. The remedy is borne very well and for a long time by the stomach. This excellent quantity of salol seems to have been overlooked, as it is insoluble in the gastric juice. 6. It is a good disinfectant in washing out the bladder where only slight antiseptic solutions can be borne. It is understood that other rules for treatment of cystitis must not be neglected.

PATHOLOGY.

BY JOSHUA M. VAN COTT, JR., M.D.,

Pathologist and Professor of Histology and Pathological Anatomy, Long Island College Hospital, Director of the Department of Histology and Pathology, Hoagland Laboratory.

1. W. Podwyssozki and J. Sawtschenko. Parasitismus in Carcinoma, description of some Parasitic Spores in Carcinoma. (Centralblatt f. Bact. u. Parasitenkd., 1892, Nos. 16–18.)

2. M. Sondakewitsch. Researches on Intracellular and Intra nuclear Parasitismus in Man. (Annales de l'Inst. Pasteur, 1892 T. vi., No. 3.)

3. Noeggerath. Contribution on the Structure and Development of Carcinoma. (Wiesbaden, J. F. Bergmann, 1892.)

The reviewer of these articles (Stroebe, Berlin) remarks, "It is significant for the present status of the question of the parasitic ætiology of carcinoma, that of three investigations simultaneously appearing in print, based upon the results of many examinations, two speak with great assurance for the presence of parasites (sporozoen) in cancer cells, while the third negatives their presence with just as much assurance, and seeks to explain in another way the questionable cell forms. P. and S. give an exhaustive and critical review of the recent literature on the ætiology of carcinoma, and they conclude, that neither those investigators who claim the presence of sporozoen in cancer—either affirming or denying their ætiological relation to the cancer,—nor those denying the presence of sporozoen in cancer—claiming another significance for these appearances in cancer cells,—that neither have produced sufficient proof for their claim.

The authors think they have succeeded in proving sporozoen in perhaps twenty cases of cancer of various organs, and support their claim principally upon the finding of a sickle-shaped body in the cancer cells, regarding the resemblance of these bodies to the spores of sporozoen well-known to zoölogy as undoubted evidence of their parasitic nature.

They are of the opinion that the round and oval bodies of other observers, (Steinhaus, Bergmann,) found in carcinomata are real sporozoen, and that these observers have only failed to demonstrate the sickle-formed bodies which speak certainly for the sporozoen nature of the forms in question.

Opposed to them Stroebe has also seen and drawn (Ziegler's Beiträge, Bd. xi. Taf. i., figs. 1, 2, 3, 4, 5, 6, etc.) these bodies, but has been unable to convince himself of their parasitic nature, since the possibility of the presence of nuclear degeneration cannot be certainly excluded.

A zoölogical form-correspondence of the sporozoen which lie partly in the cells, partly between them, is not shown by the authors. Neither do they express any view regarding the ætiological relation of these occurrences to carcinoma, because the only proof in this direction is wanting,—pure culture and inoculation experiments have not been made.

S. speaks in like manner, on the ground of morphological resemblance to known forms of the sporozoen nature of these intracellular forms in cancer. He found them partly intracellular, partly intranuclear without exception in fifty-nine various cancers,

and pictures the oval and partly segmented bodies in great numbers. He cannot support the view of many observers who regard these bodies as originating from the substance of the cells, but holds them to be something decidedly foreign to the cells.

The best pictures were obtained from osmic acid preparations, those from Müller's fluid being not so good, a close relationship often appearing between the sporozoa and degeneration products in the cells.

Noeggerath's results obtained from very numerous observations on cancers from various organs are diametrically opposed to those of P. and S.

From the various staining relations of the cell contents to alum-carmine-picric-acid on the one hand, and a number of aniline colors on the other, he concludes that these bodies are derivatives of the nucleus and not foreigners.

While rarely he found with the first staining method the bright round and oval bodies of the authors everywhere, staining with aniline dyes colored the supposed sporozoen lying in the neighborhood of the nuclei so intensely as to make him conclude that they were certainly altered fragments of the cell nuclei.

Staining with gentian, fuchsin, methyl blue, saffranine, never produced pictures looking like sporozoen.

It must be remembered here, that the first two authors, and the reviewer (Stroebe) stained the sporozoen most beautifully with saffranine. Treated first with alum-carmine, then gentian violet, and eventually Gram's stain, N. found that the unaltered portion of the nucleus took a red color, while what he regards as the altered part, and the other observers, sporozoen, were colored blue.

Auerbach's investigations differentiate in the nuclear chromatin of the sex-cells of animals two substances with different color affinities, an erythrophile (female) and a kyanophile (male). Noeggerath thinks from the described relation between the cancer cell nuclei and their contents, that the latter originate from separated and abnormally multiplied erythrophile and kyanophile substances. He believes these two substances could leave the original cells, fructify others, and in this way occasion the growth of the cancer.

Noeggerath only offers this theory as a possible one, and as yet incomplete in explanation of cancer growth. Stroebe doubts this color reaction and hence the theory. Noeggerath is opposed not only to the infection theory, but also Kleb's fructifying theory, which supposes the leucocytes to have this power over the cancer cells. He also agrees with Stroebe, that the theory of Hansemann—

which places great significance on the asymmetric karyokinesis in carcinoma—"is based on uncertain and indeed incorrect ground, because it brings it into analogy with the formation of the primitive streak in ova." (Stroebe, Berlin.) [There is a very general and growing belief amongst pathologists, and indeed zoölogists, that the ætiological factor in carcinoma is to be sought in protozoa or sporozoa. Some recent authors (*vide* Delafield and Prudden, Pathological Anatomy and Histology, fourth edition), still maintain that Cohnheim's embryonic theory is yet the only sound doctrine of the origin of tumors, but this is in direct opposition to the strong tide which is sweeping towards the parasitic theory, which for the present reviewer has many logical possibilities in it. V. C.]

OPHTHALMOLOGY.

BY RICHMOND LENNOX, M.D.,

Assistant-Surgeon, Brooklyn Eye and Ear Hospital.

Landolt (Arch. d'Ophth., 1892, p. 201, Ophth. Record, 1892 p. 129) The questions involved in the removal of cataract have had since the conception of the operation an absorbing interest not only for ophthalmologists but also for general surgeons. The answers to these questions have been in many cases contradictory, and it was in the desire to reconcile these contradictions that Dr. Landolt some time ago sent a circular letter to representative ophthalmologists throughout the world asking their views on the subject of cataract extraction, and the present paper is an able presentation of he case based upon the replies received and the author's own extended experience.

The operability of a cataract is by no means a synonym of the total opacity of the lens. Some are guided in the time of operation by the amount of opacity (one-third to total), others by the degree of visual acuity (from sensible impairment of vision to V. = less than counting fingers), others by the age of the patient (50-60 and after), and others still by the "patient's interest," *i.e.*, they do not touch a cataract however favorable for operation as long as the fellow eye is still good. Landolt is guided in this respect by the age of the cataract, not operating even in old people as long as the cataract is progressive, and on the other hand not hesitating to attempt upon a younger person the extraction of a much more transparent lens, if convinced of its stationary or regressive con-

dition. Various methods of artificial ripening have been practiced, puncture of lens or of capsule with or without massage, massage after paracentesis, etc., but the author's experience has been with the method suggested by Foerster, iridectomy and massage. This should not be followed by extraction in less than a month. In making the incision the majority of operators use the narrow Graefe knife and operate above, placing the incision in the corneal limbus. The size of the incision should depend upon the probable volume of the lens to be removed, and the presence of a conjunctival flap is not a matter of special importance since the days of antisepsis. Landolt regards it as rather a complication. As to the combination of iridectomy with the extraction, opinions differ greatly, although all operators have to do the combined extraction in some cases. The easiest, simplest and most durable extraction is that done on an eye in which the iridectomy has been previously made, but an iridectomy made at the same time with the rest of the cataract operation, although it has its advantages, also has inconveniences. It renders the operation longer, somewhat more painful and complicates it seriously, as by hæmorrhage. The visual acuity resulting has been proved to average exactly the same in cases of simple and of combined extraction, and the greater cosmetic value of the simple extraction is lessened by the fact that in the majority of cases of upward coloboma, the upper lid has to be raised to see it. Landolt sees the superiority of extraction without iridectomy in its simplicity, ease and rapidity, and the little traumatism to which it exposes the eye, in cases to which it is applicable, that is cases of entirely ripe senile cataract, easily detaching itself from the capsule and occurring in persons who are healthy, docile and reasonable. Should the iris show any tendency to prolapse it is better to excise it at once. In the not infrequent case of impure or complicated cataract, the iridectomy facilitates the extraction, the healing and the establishment of satisfactory acuteness of vision. While simple extraction, when successful, may be of surpassing excellence, its results average no better, and we ought to seek to restore useful sight to the greatest number of our patients, rather than to get an ideal result in a few cases at the risk of losing others. The majority of operators favor iridectomy, which they perform in most of their operations, and in many cases it is of undoubted advantage to make it precede the extraction by several weeks.

The lens capsule may be opened by one of several methods, but in any case the opening should be as extended as possible. It is not now considered well to make the capsulotomy too peripheral

on account of the resulting necessity of a subsequent discission. It is especially important to have a good illumination, and the author strongly recommends the electric apparatus devised by Chibret both for the discission and the cleansing of the pupil and chamber after the escape of the lens. For the removal of cortical masses Landolt advocates gentle massage executed with the eyelids. Intra-ocular irrigations do not meet with much favor, and can only operate mechanically in washing out débris, not as has been claimed antiseptically. Used in strength sufficient to have antiseptic worth these solutions become dangerous. Chibret has recently advocated the use of cyanide of mercury (1-20,000) and in stronger solution (1-100) for the instruments.

Secondary operations such as iridectomy, iridotomy, extraction of secondary cataract or cauterization of prolapsed iris are not infrequently necessary especially after simple extraction. In no case should they be done until all irritation from the previous operation has subsided. These secondary operations are really more dangerous than the original, although some operators (Knapp, Kuhnt) regard them without dread. Statistics have shown that panophthalmitis occurs about six times as often after discission as after extraction. One cannot in all these cases lay the blame upon infection. All dragging upon iris or ciliary body is to be avoided, and should slight presentation of vitreous occur it should be immediately cauterized. The susceptibility to infection is very different in the various parts of the eye It increases from the surface toward the centre in proportion as the tissues are protected from the deleterious germs by more delicate membranes and epithelia and by a less active circulation.

While some treat cataract patients as out-patients, Landolt speaks for the majority in advocating the use of a bandage and the enforcement of repose and quiet after operation, especially the simple extraction. The binocular bandage may be left undisturbed three, four or even five days. The importance of antisepsis is urged and a detailed description of the author's precautions in this direction is given, as well as allusion made to the antiseptics preferred by others.

In conclusion Landolt states that as there are many varieties of patient and cataract, so must the operation be varied to meet the indications of each case. No one method will do for all, and one must be ready to select that operation of detail which best suits the needs of his patient and his own capabilities.

OBSTETRICS.

BY CHARLES JEWETT, M.D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

THE MANAGEMENT OF NORMAL CHILDBED.

Schauta (Klinischer Vortrag. Berlin, 1892.) It is an unsafe assumption that childbed is a normal process and does not therefore call for painstaking supervision. At the best it borders closely on the pathological and easily oversteps the line. No vigilance is superfluous till all chance of complication has passed. The argument from the primitive races has been overdone. Their post partum condition is better as a rule by reason of more robust physique and because their labors are easier, but even they do not escape puerperal accidents. The principal requirements of a safe lying-in are cleanliness and rest. To the first end, cleanly management during the labor is as essential as in the puerperium. The author hints that a more careful toilet during the latter months of pregnancy would be conducive to a safe lying-in. In Schauta's clinic, the first examination is preceded by a rigorous soap and water cleansing of the external and internal genitals, the abdominal wall and the inner surfaces of the thighs. This is done with the aid of friction and is followed with the use of a 1 in 1,000 sublimate solution. Before operation, the external surfaces are washed with alcohol or ether. The sublimate bathing is repeated and the vagina is douched with a two per cent. lysol solution. Farbringer's method is used for the operator's hands and heat for instruments. Great care is given to the cleanliness of the introitus and external genitals at the close of labor. All other points in the antisepsis are managed with equal thoroughness.

In the post partum period, the antiseptic measures are restricted chiefly to the external genitals. Cleansing several times daily, irrigation with the lysol solution and the use of an absorbent vulvar dressing constitute the principal reliance.

Rest in bed is enjoined for fourteen days in normal cases, for a longer time when the pelvic floor has been greatly overstretched or otherwise much injured. Hæmorrhage, even though slight, is a contra-indication to getting up. The author takes positive exception to Goodell's practice of allowing the woman to now and then assume the erect posture within a few days after labor. He regards the practice as extremely irrational while the uterus is

heavy, its supports lax, thrombi not yet firmly organized and the wounds of the passages not securely reunited. It is soon enough for the patient to stand when the ligaments and the pelvic floor are sufficiently restored for support and this does not usually occur in less than about two weeks, in many cases not so soon. The position in childbed should be the dorsal for the first twenty-four hours till thrombi are consolidated, later should be frequently changed. The persistent dorsal decubitus may favor retro-displacement as involution goes on.

For the prevention of ischuria in childbed Schauta advises that the patient should learn in the latter months of pregnancy to evacuate the bladder while in the horizontal position. For the relief of retention hot water compresses placed over the genitals are used. When the catheter must be resorted to the instrument is boiled and passed with the approaches fully exposed and carefully cleansed. To avoid the possible introduction of air into the bladder the catheter is filled with sterilized water.

The necessity for the abdominal binder after labor to prevent sudden anæmia from overfilling of the abdominal vessels is largely hypothetical, but a moderate fixation promotes involution of the belly-walls. The bandage is especially needed for support for a time after the patient begins to go about.

THE REMARKABLE RESULTS OF ANTISEPTIC SYMPHYSIOTOMY.

Dr. Robt. P. Harris (Reprint from Am. Gyn. Trans. 1892). Before 1866, as is well-known, the operation of symphysiotomy had become practically obsolete. The credit of having revived the operation belongs to Prof. Ottavio Morisani, of Naples. He first operated upon a living woman on Jan. 5, 1866, saving both mother and child. In 1881 fifty operations had been done in Naples alone, with a loss of twenty per cent. Yet this record made little impression at the time, owing to old prejudice against the operation. The brilliant success too, of the Sanger Cæsarean section, which was introduced in 1882, soon overshadowed all other incisive methods of delivery. Naturally the best results in pubic section have been attained since the introduction of antiseptics. Forty-four aseptic operations are tabulated, all done since 1886. Up to October 7th, 1892, this record had been extended to fifty-two cases. Five of the added cases are credited to Prof. Pinard of Paris: the other three were performed in this country. The first American symphysiotomy was done in Brooklyn, ten days after the reading of Dr. Harris' paper in this city in September last. Three days later Prof. Hirst operated in Philadelphia and another case soon followed by Dr.

Broomall of the same city. Two Neapolitan operations not previously reported have since been added to the list, making a total record of fifty-four. They are credited to nineteen operators in Italy, France, Germany and America. Of the fifty-four women fifty-three were saved, and forty-eight out of fifty-four children. In the last thirty-four consecutive cases there has been no death.

[Prof. W. S. Forbes in a recent letter to the Philadelphia Medical News, objects to the term symphysiotomy as indefinite, since there are several symphyses in the body. He proposes pubeotomy (not pubiotomy of the Medical Lexicons) as a better name for the operation. A considerable number of operations has been added to the record since the above abstract was written.—J.]

CHILDREN AND THEIR DISEASES.

BY FRANCIS H. STUART, A.M., M.D.

LARYNGEAL PARALYSIS—A SEQUEL OF MEASLES.

Dr. H. Smith (Br. Med. Jour. Nov. 19, '92) reports upon an epidemic of measles at Dharmsala (the number of cases not stated) every one of them mild, three cases of which were followed by paralysis of the intrinsic muscles of the larynx. These cases were mild also, and had no respiratory complications or sequels except the laryngeal paralysis. "The paralysis set in within a few days after the subsidence of the fever. The patients complained of no inconvenience except the loss of phonation. On laryngoscopic examination there was no congestion or inflammation to account for the matter. The rima glottidis remained midway between extension and contraction. Slight passive movements of the cords were visible on forcible respiration. The first case lasted about ten days (without any treatment); the second and third cases lasted about six days, treated with strychnine.

The condition is interesting as a rare sequel of measles, somewhat resembling the paralysis of diphtheria.

THE BLOOD IN MEASLES.

Doehle (Centralbl. f. allgem. Pathologie, Feb. 15, '92) makes a preliminary communication upon this subject, giving the results of the examination of the blood in eight cases. The blood employed was taken on the first or second day after the appearance of the exanthem, and in the fresh state showed motile bodies, 1-2 to 1

micron diameter (sometimes larger), composed of a central nucleus, or two nuclei, surrounded by an envelope of clear-looking substance, the whole more or less oval in shape. They were found both in the red corpuscles and in the plasma; immediately after the outbreak of the exanthem, however, in the former only. They exhibited distinct movements in either situation. On one occasion one of these bodies was seen to emerge from a corpuscle and traverse the field with great rapidity. The author also made dry preparations of the blood, using especially a double stain of orange and gentian violet. Structures composed of a violet colored nucleus with colorless envelope were seen lying in the yellow-tinted corpuscles and also outside them. Two nuclei were sometimes seen in apposition, enclosed in a single envelope. In addition, other bodies, oval in shape and containing a lenticular nucleus, or two such nuclei, were seen in these colored specimens; and lastly, forms larger than any of the above, from 1 1-2 to 2 1-2 microns in diameter, were apparent; these were elliptical in shape, with contents divided into four parts by lines of section at right angles to each other. These several structures were found to be provided with flagella. They represent, in the author's opinion, different stages of development of a parasite, which, further, may with much probability be regarded as the cause of measles. (Abstracted in Epit. Br. Med. Jour., June 25, '92.)

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

INTERNATIONAL CLINICS (Quarterly), Vol. iii. J. B. Lippincott Company, Philadelphia.

The third volume of the International Clinics is in every respect as good as the two preceding. It contains forty-two separate lectures, embracing the whole field of medicine.

Under general medicine, the lecture by Dr. Percy Kidd, on The Examination of the Sputum for Tubercle Bacilli, could be read with profit by every physician. The method of staining and examining for the bacilli is carefully and simply given, thereby enabling anyone, not particularly well instructed in bacteriological technique, to readily prepare and examine sputum.

Dr. Gairdner's article on Acute Intestinal Obstruction, etc., is worth perusing during these times when so much is said and written on appendicitis. Sixty-six pages are devoted to Surgery. All of the lectures except one are by prominent American authors. It leads with an interesting paper on the

Diagnosis of Abdominal Hernia which cannot fail to be instructive, coming from a gentleman of such vast experience in Special Surgery (hernia) as Dr. De Garmo.

Dr. Keen gives four cases of congenital tumors of the head and spine, with operation.

Through this whole department are many undoubtedly as valuable. Under Genito-urinary and Venereal Diseases, Dr. Ohmann-Dumesnil gives an instructive lecture on the differential diagnosis between syphilis of the tongue and cancer. The section of Gynæcology and Obstetrics is filled with articles valuable to gentlemen practicing these specialties. Under the head of Neurology there are lectures by some of the most prominent neurologists of the United States. The subject of Malarial Paralysis is instructively demonstrated by Dr. J. M. Da Costa.

The only contribution from Brooklyn is that of Dr. John C. Shaw, who gives some examples of that rather common, but not sufficiently studied mental disorder Mysophobia. Dr. Shaw's article will prove a valuable addition to what has already been written on this subject.

Permanent Headaches are discussed by Dr. S. Wier Mitchell.

Dr. F. X. Dercum's article on Adult Chorea is fairly well illustrated by a number of plates. The papers on Ophthalmology, Otology and Laryngology are few, but well written.

There only two lectures on Dermatology, one by Dr. H. W. Blanc on Erythema Exfoliativa Recurrens; while it is very entertaining it is of slight practical value to anyone except the dermatologist, for the disease in question is "out of the ordinary run" and really belongs to the dermatological curios.

The other by Dr. Piffard on Vegetable Parasitic Diseases of the Skin is, as his articles always are, instructive to the general practitioner as well as to the specialist.

The editors are to be congratulated for maintaining the high excellence of the work in this volume as in the preceding ones, and it is to be hoped that each succeeding number will be filled with instructive articles, for undoubtedly a work of this sort has its place among other more comprehensive medical literature.

MISCELLANEOUS.

NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

This organization will hold its Sixth Annual Meeting at Omaha, in the latter part of May. The general subject for discussion will be Injuries of the Cord and its Envelopes, without Fracture of the Spine. The following are the divisions of the subject, and the names of those who will take part in the discussion.

1. History, by Dr. Geo. Ross, Chief Surgeon Richmond & Danville R. R., Richmond, Va. 2. Anatomical Landmarks, by Dr. Jabez N. Jackson, Surgeon Wabash R. R., Kansas City, Mo.

3. Physiology of the Spinal Cord, by Dr. A. P. Grinnell, Chief Surgeon Central Vermont R. R., Burlington, Vt. 4. Experimental Research, by Dr. B. A. Watson, Surgeon Pennsylvania R. R., Jersey City, N. J. 5. An Experimental Study of Spinal Myelitis and Meningitis, by Dr. Geo. A. Baxter, Div. Surg. Chattanooga Southern R. R., Chattanooga, Tenn. 6. The Clinical Aspects of Spinal Localization, by Dr. Nicholas Senn, Surgeon Chicago, St. Paul & Kansas City R. R., Chicago, Ill. 7. Diagnosis from the Standpoint of the Neurologist, by Dr. C. H. Hughes, Consulting Surgeon Missouri Pacific R. R., St. Louis, Mo. 8. Pathology and Pathological Anatomy, by Dr. Samuel C. Benedict, Surgeon Richmond & Danville R. R., Athens, Ga. 9. Prognosis, by Dr. Samuel S. Thorn, Chief Surgeon Toledo, St. Louis & Kansas City R. R., Toledo, Ohio. 10. Treatment, by Dr. W. B. Outten, Chief Surgeon Missouri Pacific R. R., St. Louis, Mo. 11. Medico-Legal Aspects, by Judge J. H. Collins, Chief Counsel Balto. & Ohio R. R., West of the Ohio River, Columbus, O. 12. Statistics of the Amount of Money paid by the Railroads of the United States, during the last Ten Years for Alleged Injuries of the Spine, by Dr. F. K. Ainsworth, Surgeon Southern Pacific R. R., Los Angeles, California. 13. Clinical Report—1. From a Medical Aspect; (a) Permanent Injuries; (b) Alleged Injuries. 2. From a Legal Aspect —(a) Settled with Suit; (b) Settled without Suit; (c) Miscellaneous, by Dr. Geo. Chaffee, Surgeon Long Island R. R., Brooklyn, N. Y.

JOSEPH L. BAUER.—CORRECTION.

In the paper of Dr. Wm. Browning on the "Nervous Affections that may arise from Malaria," which was published in the JOURNAL, January, 1893, reference was made to two cases reported by Dr. Joseph W. Bauer; it should have read Dr. Joseph L. Bauer. Dr. Bauer is a resident of St. Louis, Mo., and is editor of the Journal of Materia Medica, published by the Tilden Company, New Lebanon, N. Y.

REORGANIZATION OF THE STAFF OF KINGS COUNTY HOSPITAL.

The following resolution was adopted at a meeting of the Commissioners of Charities of Kings County held Feb. 15, 1893:

Resolved, That on and after March 14, 1893, the hospital medical and surgical staff of the Kings County Hospital will consist of the following, the present staff being superseded: Jesse T. Duryea, medical superintendent; consulting staff, surgeons, Dr. P. L. Schenck, Dr. J. H. Rushmore; physicians, Dr. J. L. Zabriskie, Dr. T. Schenck, Dr. J. A. McCorkle; oculist, Dr. J. S. Prout; neurologist, Dr. J. C. Shaw; obstetrician, Dr. Charles Jewett; dermatologist, Dr. W. H. Bates; gynæcologist, Dr. Alexander J. C. Skene; visiting staff, surgeons, Dr. I. H. Barber, Dr. E. A. Lewis, Dr. H. W. Rand; physicians, Dr. Frank E. West, Dr. Gordon R. Hall, Dr. Herman Bender, Dr. George E. Law; oculist, Dr. Richmond Lennox; neurologists, Dr. William Browning, Dr. C. F. Barber; obstetricians, Dr. R. L. Dickinson, Dr. J. T. Duryea; dermatologists, Dr. J. M. Winfield, Dr. H. H. Morton; gynæcologists, Dr. Earnest Palmer, Dr. George McNaughton; diseases of children, Dr. H. C. McLean, Dr. J. L. Kortright; pathologists, Dr. J. M. Van Cott, Dr. E. H. Wilson; assistants, surgeons, Dr. William Maddren, Dr. A. Rae, Dr. A. T. Bristow; physicians, Dr. H. C. Riggs, Dr. George G. Ward, Dr. H. R. Maine, Dr. Palmer Townsend; oculist, Lawrence Coffin; neurologist, Dr. A. F. Carroll, Dr. A. C. Brush; dermatologist, Dr. George D. Barney, Dr. B. F. Bostwick; gynæcologist, Dr. William Skene; diseases of children, Dr. T. A. York, Dr. William Margulies; pathologist, Dr. Henry Creamer. The corps of internes will remain as at present, the term of office being one year. Vacancies among the internes to be filled by competitive examination, to be held under the direction of the hospital staff association. There shall be a staff association to be composed of the members of the consulting staff and the visiting staff. Its presiding officer shall be the medical superintendent, the secretary to be chosen by the staff association. Meetings of the staff association will be held once a month or on the call of the presiding officer. Any vacancy which may occur in the staff will be filled by nomination by the staff association to the Commissioners of Charities and Correction who will confirm. The members of the staff shall hold their appointment during good behavior. In case an assistant should become derelict in the discharge of his duties, his visiting superior shall report to the staff association, who shall recommend his removal by the Commissioners. The staff association may recommend such changes in the division of work as may seem to be for the best interests of the hospital.



CARL von LINNE (LINNÆUS).

Carl von Linne, better known by his Latinized name, Linnæus, was one of the greatest systemic botanists, and naturalists, the world has ever seen.

He was born in Sweden in 1707, and died in 1778. His father was a poor clergyman in a rural district, who could hardly afford to give his son an education, and who after finding it impossible to make a clergyman of him, was at one time, by the advice of his teachers, nearly apprenticing him to a shoemaker.

Our young naturalist, early showed his love for the department of natural history, for which he has done so much, for his father was a lover of flowers, and had a well stocked garden at the rectory, and in it young Linne passed the leisure hours of his childhood. We are told that when but four years old, he was much impressed with his father's conversation with some of his people, concerning the properties and names of certain plants of economic value; and from that time he constantly asked his father about the quality and nature of every plant he met with. He was threatened with a refusal to answer his queries unless he remembered what he was told. To this early discipline Linnæus afterwards ascribed his tenaceous memory, which, added to his extreme sharpness of sight, laid the foundations of his eminence as a reforming naturalist.

During the early years of his life he endured many privations and much poverty; even while at Upsala becoming dependent on chance for a meal, and had to repair his shoes with folded paper, literally "walking on his uppers," but his extensive acquirements procured him numerous friends, and in 1741, at the age of thirty-four, we find him appointed to the professorship of medicine at the University of Upsala, the scene of his great poverty as a student.

Previous to his appointment to this chair, Linnæus, had travelled through Lapland where he had been sent by the Academy of Sciences for the purpose of exploring that Arctic region; he had visited and examined the great mines of Sweden, where he acquired a good knowledge of mineralogy; he had explored the natural history of Dalecarlia, for which purpose he had been sent by the Governor of that province; he had visited Denmark, Germany, Holland and England, and had thus laid up a vast store of knowledge in all the three kingdoms of nature. The extent of this knowledge may be judged from his "Systema Naturæ," a work which has now been before the world more than a century, and which, notwithstanding that our acquaintance with the objects of nature has increased a hundred fold since then, is almost indispensable to every naturalist, even at the present day.

His acquirements in natural history were universal; still it was in botany that he obtained most success and his greatest glory.

His arrangement of plants by the sexual system, or by the number, disposition, etc., of the stamina and pistils, maintained the preeminence over all rival systems till very lately, and even now, though superseded in a great measure, retains a most useful place in the study of botany. The use of the binomial nomenclature which he introduced into botany and zoology; or the use of trivial or specific names appended to the generic, to distinguish the different species of animals and plants, is one of the most important helps to the study of natural history that has ever been adopted, and which alone would have immortalized the name of Linnæus.

He at one time practiced as a physician at Stockholm with considerable success, acquired an extensive practice, and became one of the physicians to the king.

The genus Linnæan was named for him because of a similarity, as he fancied between this plant and himself.

In 1762, he was created knight of the Polar Star, the first time a scientific man had been raised to that honor in Sweden.

In 1761, a patent of nobility was granted, antedated to 1757; his arms were those now borne by the Linnæan Society of London. His family is now extinct.

With him arrangement seems to have been a passion; he delighted in devising classifications; not only did he systematize the three systems of nature, but even drew up a treatise on the "Genera Morborum." He found biology a chaos, he left it a cosmos.

Linnæus is described as a man of medium height, with very large limbs, brown piercing eyes, and acute vision, and quick tempered. He was accustomed to sleep five hours in summer and ten in winter. He lived



MESSENGER MONSEY, M.D.

This "medical oddity" was born in Dowham, England, in 1693; his father was a "non-juring" clergyman, who sent his son to Cambridge, where he procured the degree of A. B. at Pembroke College. He was admitted an extra-licentiate of the College of Physicians in 1723, and settled in Burry St. Edmunds, where he experienced the common fate of country practice—constant fatigue, long journeys and short fees; and in a rusty wig, dirty boots, and leather breeches, might have degenerated into a hum-drum provincial doctor, his merits not diffused beyond a country chronicle, and his medical errors concealed in the country church-yard—but for an accidental attendance on the Earl of Godolphin, in which nature, or Monsey, was successful; and the grateful Earl procured for him the appointment of physician to Chelsea Hospital, and ultimately left him a handsome legacy.

From the narrow, unvaried rural circle he was suddenly transported into a land of promise and politeness, with the Earls of Chesterfield and Bath, Sir Robert Walpole, and Garrick, as his companions and friends. Even in such society Monsey maintained his original plainness of manners, and with an unreserved sincerity sometimes spoke truth in a manner that gave offense; and as old age approached, he acquired an asperity of behavior and a neglect of decorum that subjected him to the odium of being considered as a cynic and misanthropist. As a physician he adhered to the tenet of the Boerhaavean school, and despised modern improvements in theory and practice, uniformly prescribing contrayerva and ptisan, and adhering to rules and systems merely because they were sanctioned by sixty years' experience.

In his politics he was very much to the Whigs, what in the previous generation, Radcliffe had been to the Tories. Sir Robert Walpole loved him, seizing every opportunity to enjoy his society, but never doing anything for him; and Lord Chesterfield was among the most zealous trumpeters in his medical skill. Instead of covering the great minister with adulation, Monsey treated him like an ordinary individual, telling him when his jokes were poor, and not hesitating to worst him in argument. "How happens it," asked Sir Robert "that nobody will beat me at billiards, or contradict me, but Dr. Monsey?" "Other people" put in the doctor, "get places—I get a dinner and praise."

Among the vagaries of this eccentric physician was the way in which he extracted his own teeth. Round the tooth sentenced to be drawn he fastened securely a strong piece of catgut, to the opposite end of which he affixed a bullet. With this bullet, and a full measure of powder a pistol was charged. On the trigger being pulled, the operation was performed effectually and speedily. The doctor could only rarely prevail on his friends to permit him to remove their teeth by this original process. Once a gentleman who had agreed to try the novelty, and had even allowed the apparatus to be adjusted, at the last moment exclaimed, "Stop, stop, I've changed my mind!" "But I hav'nt, and your a fool and a coward for your pains," answered the doctor, pulling the trigger. In another instant the tooth was extracted, much to the timid patient's delight and astonishment.

Dr. Monsey was accustomed to tell his friends that the first of his ancestors of any note was a bailer, and a retail dealer in hops. At a critical point in this worthy man's career, when hops were "down" and feathers were "up" he raised a small sum of money for immediate use; he ripped open his beds, sold his feathers, and stuffed the tick with unsalable hops. Soon a change in the market occurred, and once more operating on the couches used by himself and children, he sold the hops at a profit, and brought back the feathers. "That's the way, sir, by which my family hopped from obscurity!" the doctor would conclude.

He lived to extreme old age, dying at his rooms in Chelsea College, in 1788, in his 95th year; and his will was as singular as any other feature of his career. To a young lady mentioned in it, with the most lavish encomiums of her wit, taste, and elegance, was left an old battered snuff-box not worth sixpence; and to another young lady, whom the testator says he intended to have enriched with a handsome legacy, he leaves the gratifying assurance that he changed his mind on finding her "a pert conceited minx." He directed that his body should not be insulted with any funeral ceremony, "but, should undergo dissection; after which, the remainder of my carcass" (to use his own words) "may be put into a hole, or crammed into a box with holes, and thrown into the Thames."

This portrait sketched by Forster when Monsey was over 90 years old is regarded as a good one.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

HYSTERICAL BLUE ŒDEMA.

BY JOHN C. SHAW, M.D.

Prof. of Diseases of the Mind and Nervous System Long Island College Hospital, etc.

AND

J. T. DURYEA, M.D.

Medical Superintendent Kings County Hospital.

The morbid manifestations presented by the patient whose history we are about to relate show some unusual features. Hysteria in its most general manifestations is well known, but it, at times, presents itself in an unusual grouping of symptoms, often simulating with great accuracy organic disease; it is when brought face to face with such hysterical conditions that the diagnosis is difficult. We do not intend to give a complete account of these strange hysterical symptoms, but to confine ourselves to the

manifestations as presented by this individual patient. Care has been taken to learn all that we can of her history; it is as follows:

L. H., aged eighteen. A well developed, healthy appearing young woman. Nothing positive is known of her family history except that her mother is of an exceedingly nervous temperament. She was married at the age of sixteen years. Nine months after her marriage, her husband was suddenly killed in a railroad accident. In August, 1891, while engaged in a swimming match she was seized with cramps and was carried out of the water by some one near at hand. Three weeks later she began to complain of sharp, shooting pain in the left breast, which she thinks was caused by an accidental blow when she was being rescued from the water. A



FIG. 1.

few days after she was seized with a convulsion; for twelve weeks after she had convulsions, on an average of two a week; during this time the left breast grew larger and more painful. She was now admitted to the Long Island College Hospital, where she says an opening was made into the breast and pus discharged.

On April 5, 1892, she was admitted to the Kings County Hospital. Examination showed the left breast enlarged, appearing swollen, œdematous and somewhat cyanotic, it is soft; there are no hardened parts; no evidence of tumor. There is also the same œdema of left hand and forearm, and the same bluish color presented by the breast; these œdematous parts are cold to the touch. The breast is intensely hyperæsthetic, the slightest touch causes pain;

this hyperæsthesia extends from a short distance below the insertion of the breast to the shoulder, also on the corresponding area on the back; it is confined entirely to the left side. There is anæsthesia of the anterior surface of the left arm and forearm. All her internal organs are perfectly healthy, and she is well nourished. Two weeks after admission she was seized with a convulsion; during the next three days she had a series of convulsions; between the convulsions she remained in an unconscious state. During the convulsive attacks she made movements resembling those made in swimming, at other times those of a person drowning; the respirations were embarrassed; the face at one time congested and cyanotic, at another time extremely pallid. There was frothing at the mouth. During these three days she took no food.

On April 23d she had a similar convulsive seizure, but less severe, upon recovering from this attack the left leg was paralyzed; there was also anæsthesia of the entire leg to the ankle, below that sensation was normal. May 7th a convulsive seizure occurs, upon recovery from which she cannot speak. On May 16th it is found that she is anæsthetic on the anterior surface of the right forearm, from elbow to wrist. Anæsthesia of right side of face and head. Two days later the little and ring finger and posterior surface of right hand, arm and forearm were anæsthetic. There was also loss of sense of taste.

May 27th. She is unable to hear with the left ear. There is also a patch of anæsthesia on outer side of right knee.

June 5th. She is in a state of emotional excitement, and appears on the verge of a convulsive attack, but later she becomes quiet, falls asleep and when she awakes next morning she can speak in a whisper; after a few hours speech was fully restored.

June 16. Paralysis and anæsthesia have disappeared except in the left arm and forearm, which also remains œdematous, paralyzed and anæsthetic. The breast is in the same condition as on admission, except that it is not nearly so sensitive. She was fond of attention, and under these circumstances was always cheerful, but if no notice were taken of her she became depressed and melancholy, frequently crying; if spoken to she would begin to laugh while the tears were still in her eyes. In this condition she left the hospital. Dr. Richard E. Shaw has kindly permitted one of us to look over the record of this girl while in the Long Island College Hospital, which was in January and February 1892. It is recorded that there was a red band around the left nipple. "On palpation there is an obscure sense of fluctuation." An incision was made into the breast and no pus found (this is the incision which appears in the upper

part of the breast, in the photograph). Dr. R. Shaw also informs us that she had convulsions at times and pretended to vomit blood, which he is sure came from her mouth. On one occasion she came to the out-patient department and asked to be admitted to the wards of the hospital, when refused admission she had a series of convulsions.

Mr. L. B. Darling (senior student of medicine) informs us that he had an opportunity of observing this patient previous to her ad-

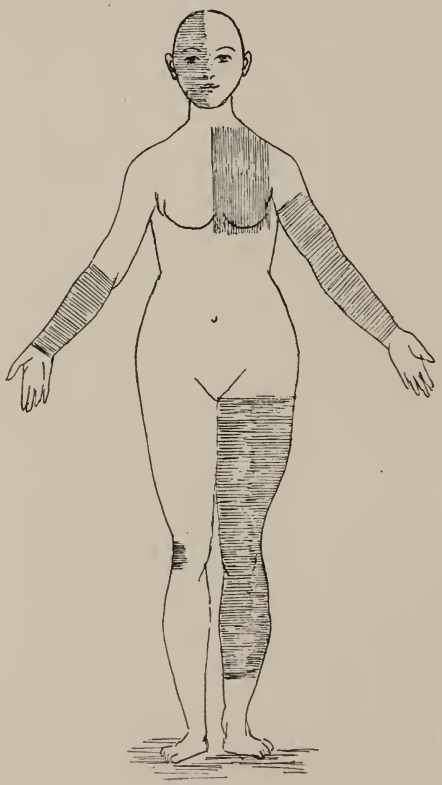


FIG. 2.

mission to the Long Island College Hospital and she had a certain amount of œdema of the left side of the face, some paralysis of the left arm, convulsions and vomiting of blood.

We have in this young woman a large group of hysterical symptoms, paralysis with anæsthesia in various portions of the body; intense hyperæsthesia in a localized area. Localized œdema, and well-marked hysterical convulsions and aphonia. Such a number of hysterical symptoms one does not often meet with in the same subject.

The convulsions, anæsthesias, hyperæsthesias and paralyses which are met with in hysterical cases are pretty well known to the profession at large, it will, therefore, be unnecessary to make any remarks on these features of the case. The œdema as an hysterical symptom is not so well known and in this particular case presents some features of interest. Hysterical œdema was observed as long ago as 1799 by Sydenham and since that time many authors have spoken of it. The characteristics of hysterical

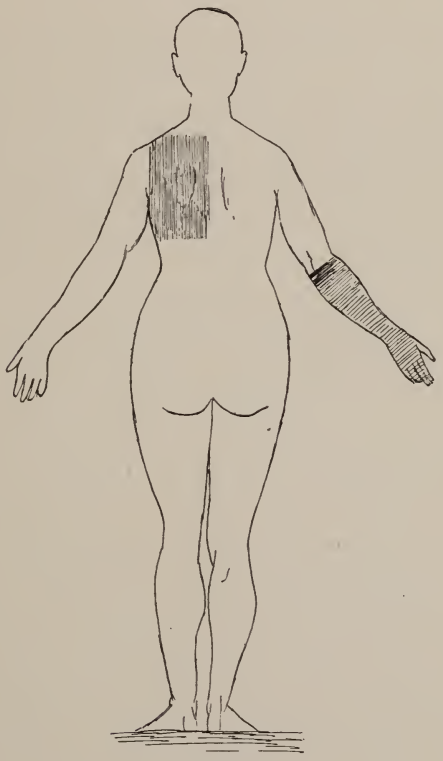


FIG. 3.

œdema are, a swelling coming on in a localized part, more or less suddenly, and without adequate cause; in appearance it is white, and does not pit under pressure as true œdema does, it is almost invariably associated with other hysterical manifestations or stigmata; it is usually observed in the extremity of one of the members, such as the foot or hand, but it may affect one of the joints alone, such as the knee; it is most commonly found in association with paralysis of the extremity. In 1890, Professor Charcot called attention to an hysterical œdema which was not white in color but

blue, and described it under the name of l'Œdema bleu des Hystériques.

When our patient presented herself we had no difficulty in making a diagnosis of hysteria with œdema, but in association with the œdema of the left upper extremity we also found a condition of the left mammary gland which we had not the least hesitancy in pronouncing an hysterical œdema and analogous to the œdema of the arm; we wished, however, to have the opinion of a physician who is more familiar with organic diseases of the female mammary gland than we are, in that way to positively exclude the presence of any organic disease; we therefore asked Dr. A. J. C. Skene to see her. His reply after examining her reads as follows:

"The affection of the mammary gland is undoubtedly œdema. The most careful examination reveals no evidence of any other morbid condition. I feel that I can speak rather positively on this point. My examination was made with the greatest care but not the slightest evidence could I find of any other known disease of the mammary gland.

"There is another very interesting point connected with the case, and that is the absence of any disease whatsoever of the pelvic organs. In affections of the mammary gland in women that I have seen (excluding malignant disease and acute mastitis), I have almost invariably found some ovarian or uterine disease and I have taken it for granted that the mammary disease was due to reflex disturbances, but in this case there is certainly no disease of the sexual organs to which the mammary œdema could be attributed."

The œdema in this patient is not white but bluish, a cyanotic appearance, and the temperature of the parts is lowered. We have a case of blue œdema So far as we know no case has been reported in which the œdema has been in the breast; it has always been confined to the extremities. Either an arm or leg, most frequently the arm, and it is unilateral.

Illustration 1 (reproduced from a photograph taken by Dr. Duryea) shows the œdema of the breast and the upper extremity.

Illustrations 2 and 3 show the anæsthetic and hyperæsthetic areas. The vertical shading indicates the hyperæsthetic areas; the transverse shading, the areas of anæsthesia.

A CASE OF PUBIC DISLOCATION OF THE FEMUR.

BY HERBERT C. ROGERS, M. D.,

Assistant Surgeon Long Island College Hospital.

Read before the Brooklyn Surgical Society, November 17, 1892.

From the history given of it by different authors, pubic dislocation of the hip would seem to be of rare occurrence; and the prominence of the diagnostic marks which render it easy of detection, as well as the difficulty with which any force can be applied to throw the head of the bone from the acetabulum in that direction, leave no reason to doubt but that it is an accident to which the human frame is but little liable.

Dr. Burge, who has been connected with the L. I. College Hospital over thirty-four years informs me it is the first case of the kind seen by him. Dr. Wight, with nearly thirty years' service in the same institution, remembers of but one case, that of a sub-pubic luxation which was reported by him to the Medical Society of the State of New York, 1887. Dr. Wight's case and the case I am about to report are the only two cases I can find to have occurred at the Long Island College Hospital during the past thirty-seven years.

The diagnostic signs of this dislocation are as follows: The limb is a little shorter and, differing from every other dislocation of the hip joint, is everted. The great trochanter is carried forwards and inwards to a position nearly in a vertical line with the superior spinous process; it has lost its prominence. The body is bent forwards, and the psoas and iliacus muscles are tense. But the one distinguishing mark of all, and one readily discovered, is a hard tumor, formed by the head of the bone (rotating with the shaft) high in the groin. Patients with this dislocation complain of great pain in the groin due to the pressure of the head of the bone on the anterior crural nerve. Voluntary movements are almost impossible. Adduction and rotation inwards cannot be performed, but abduction and rotation outwards can to some extent.

Precautions are generally given that this dislocation be not mistaken for a fracture of the neck of the femur, as the outward signs of both are so similar; but the unnatural fixed position of the limb in dislocation contrasted with its preternatural mobility and

crepitus in fracture, leaves no excuse for the surgeon who forms an incorrect judgment concerning either of these injuries.

The most frequent cause of this accident is described by Sir Astley Cooper in the following words: "It happens when a person while walking puts his foot into some unexpected hollow, and his body, at that moment, being bent backward, the head of the bone is thrown forwards upon the pubes." He mentions the case of a man who had met with this dislocation by placing his foot into a hollow, while walking across a paved yard in the dark, when, on attempting to extricate himself, he fell backwards, and luxation on the pubes was the consequence.

The following is the history of the case.

James D., aged twenty eight, an Irish longshoreman, was brought by Ambulance Surgeon Hawley to the Long Island College Hospital (service of Dr. Burge) on the evening of September 19, 1892, suffering from an injury to the left hip, a fracture of the left radius, and an extensive scalp wound. He stated he was at work in the hold of a ship unloading a cargo; that when partly up a ladder he was hit by some bags of sugar, and in falling he struck on some boxes at the bottom of the ladder. Upon attempting to rise, he found himself unable to do so, and more from an injury to his hip than from any violence he had sustained. He was, therefore, immediately brought to the hospital, where, upon examination of the left hip, the following diagnostic marks presented themselves: The injured limb was shorter than the other, permanently everted, abducted, and flexed. The head of the thigh bone could be distinctly felt and seen on the pubes. The vessels were lying on the outer side; there was flattening of the posterior and outer side of the hip; attempted motion in any direction gave great pain with a sensation of numbness. A diagnosis of dislocation on the pubes was made. The dislocation was reduced by the following means: The patient was laid on the table and put completely under the influence of ether. Dr. Burge grasped the injured limb, the leg was flexed upon the thigh, the thigh was carried upwards and a little inwards, becoming nearly vertical. In the meantime I supported the pelvis and made pressure on the head of the bone downwards and outwards in the direction of the acetabulum. This manipulation threw the head of the bone into the thyroid foramen. The thigh was then flexed, adducted and at the same time gentle traction with rotation inwards made, when the head of the bone could be felt to glide along and slip into its socket with a distinct snap. The knees were bound together and the patient put to bed.

On September 29th passive motion was commenced and continued daily until October 15th, when the patient was allowed to go about the ward. October 25th he was discharged from the hospital.

THE SURGICAL PATHOLOGY OF THE MASTOID PROCESS.

BY J. E. SHEPPARD, M.D.

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Read before the Brooklyn Pathological Society, Nov. 14, 1892.

Anatomy.—I wish in beginning to ask your consideration for a few moments of some of the more important anatomical peculiarities of the middle ear. It is, in the first place, an air-containing space, lined throughout with mucous membrane, this latter being continuous with that of the naso-pharynx. Its component parts are, the Eustachian tube, the tympanic cavity, and the mastoid cells. The tubal mucous membrane bears throughout a ciliated epithelium, the movements of the cilia being so directed that the tendency is from the tympanic chamber toward the pharynx, thus acting as an aid to the drainage of the tympanum, and as a hinderance to its invasion by pathogenic organisms from the naso-pharynx. The tympanic cavity, containing the ossicles, consists of two well-defined portions, the atrium, immediately within the membrana tympani, and the attic, for the most part above the membrane. The communication between these two, owing to the arrangement of the ossicles and folds of mucous membrane, is at best quite a narrow one, and easily capable, even with slight inflammatory swelling of the mucous membrane, of being more or less completely shut off. The drainage of the attic being thus so easily interfered with is a fact of the utmost significance in middle-ear pathology. The mucous membrane of the tympanic cavity is thin, delicate, and firmly associated with the underlying bone; its epithelium is for the most part tessellated, but may be ciliated, the latter form being most frequently found near the Eustachian orifice. Posterior to, and a little above the attic, and continuous with it, is the mastoid antrum, affording communication between the mastoid cells and the tympanic cavity. This consists usually of one large cell, is the only portion of the mastoid cells constant at all ages,

the other, vertical, cells not developing as a rule until about puberty. The mastoid cells are developed from the diploë between the two tables of the skull at this point, which tables separate more and more, and the small-celled diploëtic spaces are developed into the large pneumatic mastoid cells. It is well established that the development of the mastoid cells varies greatly; of two hundred and fifty mastoid bones examined by Zuckerkandl, only 36.8 per cent. showed pneumatic cells throughout, while 43.2 per cent. were partly pneumatic and partly diploëtic, and 20 per cent. were entirely diploëtic, or composed of thickened osseous tissue, and wholly destitute of pneumatic spaces. The mastoid cells are lined with a thin muco-periosteum, bearing flat epithelial cells, and non-glandular. The fact that the upper and posterior walls of the external auditory canal are made up of but a thin cortical layer of bone overlaid by pneumatic cells in communication with the tympanum, antrum, and mastoid cells, is of great pathological importance. The plate of bone, separating the cerebral cavity from the tympanic attic and mastoid antrum, is at all times thin, and pierced by blood-vessels, and is not infrequently, owing to incomplete ossification, especially in early life, defective. The cerebral surface of the mastoid process is cut into to a very varying extent by the lateral sinus it being, sometimes, on a level with the antrum, an inch or more posterior to the posterior wall of the external meatus, and at other times so close to the surface, and to the meatus, as to render the opening of the antrum from without impossible. All attempts to formulate some conclusion as to the position of the sinus and the middle cerebral fossa from the outward conformation of the skull have thus far failed.

We will now take up the individual mastoid affections. A few cases of *primary mastoid periostitis* have been reported, but it is of such rare occurrence as to require nothing but this simple mention. Much more frequent, however, is *secondary periostitis*. It is caused by both acute and chronic middle-ear suppuration and caries and necrosis of the mastoid cells, the extension outward occurring along the vessels penetrating the cortex, perhaps also through congenital bone defects. The osseous portion of the external auditory canal is much shorter in early life, hence the greater frequency of this affection in children. It is most frequent when, with acute middle-ear suppuration, the perforation of the membrana tympani is small and badly placed. In speaking of its etiology, Schwartze says, with much truth, "The recently so-much used treatment of middle-ear suppuration with powders seems, in my experience, well fitted to aid in the addition thereto of secondary periostitis of the mastoid,

by favoring pus retention." Its symptoms are, severe radiating pain over the mastoid, with the formation of a doughy, mostly reddened swelling, with flattened borders, painful to pressure. The auricle is pushed outward and forward. If seen early an effort may be made for two or three days to subdue the inflammation by leeches, painting with tincture of iodine, or cantharidal collodion, and ice poultices. If not successful, or in any case if pus be present, make a Wilde's incision to the bone, followed by whatever further treatment is indicated by the primary trouble.

Inflammation of the Mastoid Cells.—Primary inflammation of the muco-periosteal lining of the mastoid cells is a rare occurrence; usually the tympanic cavity is first affected. While changes of the lining membrane of the cells undoubtedly occur in both acute and chronic catarrhal (non-suppurative) middle-ear inflammation, they do so as a rule without appreciable symptoms, and do not therefore require further consideration here. In higher grades of inflammatory irritation suppuration occurs, and, through retention of pus in the pneumatic spaces, an abscess forms. Strictly speaking, this is an empyema of the mastoid cells and not a mastoid abscess, but general usage sanctions the latter term, and I shall therefore continue to use it. Such abscess may, and undoubtedly does, in exceptional cases, occur primarily, as is shown by section findings and operative opening. The usual course, however, is for it to originate in acute or chronic suppuration of the tympanic cavity, and most often in those cases where, from any cause (small or badly located perforations of the membrana tympani, narrowing of external canal, improper treatment, etc.), the escape of pus from the tympanic cavity is hindered. The abscess enlarges either slowly, with carious softening of the thin bony septa, or more rapidly, through necrotic death of larger portions, and leads finally, in case the antrum on account of swollen mucous membrane or granulations does not furnish sufficient exit for the pus, to rupture of its surrounding bony capsule.

In other cases there results a diffuse hypertrophy of the mastoid process (*sclerosis*; *condensing osteitis*): the pneumatic and diploëtic bone spaces become, through bone development, narrowed and gradually filled up, while the pus becomes dried and cheesy. Mostly severe pain exists in the earlier acute stage of the inflammatory swelling, as well as in the latter stage of sclerosis. It is probably due to pressure of the new-bone-formation upon the trigeminal nerve-endings. Drilling or chiselling of the sclerotic bone, even without opening the antrum, mostly removes the pain.

Symptoms and Diagnosis —In acute inflammation of the mastoid cells, any one, or all, of the following symptoms may be present, or absent: severe exacerbating pain behind the ear, in the whole half of the head, and in the neck; sleeplessness; fever; local changes in the bone surface, extreme sensitiveness to touch or to percussion; redness; heat, and œdema of the skin with the appearances of sub-periosteal suppuration. Two important, and for acute empyema very indicative symptoms, are, first, an inflammatory swelling and bulging of the posterior-superior canal wall, near to the membrana tympani, narrowing to a slit-shape the canal, and obscuring part or all of the membrane. And, second, though rarely mentioned, a pouting, teat-like, perforation in the posterior-superior quadrant of the membrana tympani. However, the single, absolutely certain sign of an abscess in the mastoid process is the escape of pus from the bone on opening it.

In chronic cases of middle-ear suppuration the extension of the purulent inflammation to the mastoid cells remains in very many cases without characteristic symptoms. The quantity of the discharge varies greatly, now very slight, now copious, according as there is a narrow or free communication between the antrum and tympanum. Indeed a retention of thickened cheesy pus may exist for a long time in the mastoid cells without showing itself by any symptoms except incurable fetid otorrhœa; this fetor, if stubbornly persisting, in spite of thorough cleansing of the tympanic cavity, indicates almost certainly pus retention in the antrum, provided caries and necrosis of the external canal and tympanic cavity can be excluded. Acute evidence of irritation in the surface of the mastoid process, and fever, appear only when the retention of pus in the bone is complete. They may subside only to reappear. Circumscribed pain on pressure, even united with œdema, may have existed a long time when we, on incision and laying bare the bone, perceive absolutely no change of the periosteum and the bone surface. If the bone is sclerosed, especially if the cortex is much thickened, what at all ages, even in young childhood, occurs as a result of chronic middle-ear suppuration, such acute symptoms of irritation of the overlying skin do not necessarily ever arise, even in a long course of the disease. The absence of the same cannot, however, be looked upon as a favorable prognostic sign, for it is exactly such cases which show proportionately the oftenest an unexpectedly rapid fatal result, through pyæmia. Recently Zaufal has called attention to the frequent occurrence of the evidences of inflammation upon the retina (optic neuritis, neuro-retinitis, choked

disc), in inflammation of the mastoid process, at times bilateral, at times unilateral, and not always upon the affected side.

The *prognosis* of mastoid abscess depends upon the direction in which through carious or necrotic destruction of its bony surroundings, rupture takes place. . The danger of a rupture inward, with the addition of fatal results (thrombo phlebitis of the neighboring transverse sinus and internal jugular vein, meningitis, brain abscess), taken with the very slight danger of operating under such circumstances, is sufficiently great to indicate, even with doubtful diagnosis, an early operative opening as the only safe procedure. Delirium and pupil inequalities and pyæmic symptoms even, are not to be looked upon as contra-indicative of operation.

As intimated above *caries and necrosis* of the mastoid bone are very frequent, owing to the cells presenting a favorable opportunity for the collection and retention of degenerating products of secretion. Rupture of the abscess outward through the cortex is the most frequent and the most to be desired. It is more frequent in children than in adults, in whom the cortex becomes thicker. The next most frequent and most favorable point of opening is through the posterior-superior wall of the external canal. It is important for two reasons to bear in mind this point of opening—first, because, if not recognized, it may by excessive bulging of the canal wall so narrow the canal as to hinder the discharge, and secondly, because, if recognized at the proper time, an incision of the bulged portion, followed by syringing, may suffice to empty the mastoid process of its pus collection, the cheesy exudate, epidermis masses and even sequestra. Bezold has very well described those uncommon cases where rupture takes place toward the digastric groove, or on the median surface of the mastoid process. On account of the deep position of the rupture beneath the fasciæ, the pus easily forces its way into the deep sub-muscular tissues, and along the sheaths of the large vessels, leading to extensive painful infiltrations in the side of neck, with abscess formation. According to Bezold it gives the impression at first of an inflammatory infiltration of the muscular attachments, which seem elevated. There develops a hard, "board-like," swelling on both margins of the sterno-mastoid muscle. Besides rupturing outward, the pus may reach upward, and open into the external auditory canal, or inward, causing death from œdema of the glottis, or downward, causing death from pus entering the thoracic cavity, or by exhaustion. Finally and most dangerous is the rupture of the mastoid abscess toward the cerebral cavity, by destruction of the roof of the tympanum or antrum, with opening of the middle cerebral

fossa, or by formation of carious canals toward the posterior fossa. In this abscess formation it must be remembered, especially in children, that it arises because the discharge from the external canal is interfered with by small perforations, polypi, thickened secretion masses, or sequestra, and that therefore the pus seeks an exit through the mastoid. Hence in the treatment, it is not sufficient to open the mastoid abscess, but in addition free vent must be afforded from the tympanic cavity through the external canal. We will now take up the cerebral complications, leaving for later consideration the treatment of the above conditions.

Cerebral Complications.—Since the thin, spongy, tegmen tympani is a frequent seat of carious disease, an extension of the inflammation not rarely occurs here. The carriers of infection get under the dura mater, and form an extra-dural abscess. In other cases the dura is also broken through with a resultant purulent meningitis of the dura and pia mater. If the disease germs enter the brain substance either around the vessels or by way of the connective tissue fibres, they then cause abscess, which is mostly located in the temporal lobe of the diseased side, very rarely of the opposite side. In the rarest cases a brain abscess arising from other causes may break through into the tympanic cavity, and complicate secondarily the petrous bone. This is the otorrhœa cerebralis of old writers. If a rupture occurs as a result of extension of the carious disease upon the posterior surface of the petrous bone, there results besides the meningeal processes, the formation of cerebellar abscess. Further, the venous blood-carriers are in many cases attacked, causing at times hæmorrhage, but most frequently phlebitis, thrombosis and pyæmia. A further danger, finally, of pyæmic infection arises from the fact that the diploëtic veins of the petrous bone take up the germs, and form thrombi, whose fragments, though seldom, get into the general blood current.

The occurrence of *meningitis* is specially favored if discharge from the tympanic cavity is interfered with. The base is much oftener affected than the convexity. The principal, though by no means constant, and in their intensity very varying, symptoms of an extensive meningitis are fever, severe headache, stiffness of neck, vomiting, retracted abdomen, constipation, slowing of pulse, convulsions, paralytic symptoms, increased lustre of the eyes, pupils reacting slowly or not at all, diplopia, stasis in the eye-ground, with or without neuritis, coma. Even in fatally-ending cases, marked remissions occur. On the other hand, all the symptoms may be present from retained pus in the middle-ear, disappearing promptly after relief. The most indicative are, paralysis

of muscles of the extremities, and of pupillary sphincter, especially if there is simultaneous evidence of optic neuritis, and a passive hyperæmia of the retinal veins. The course varies from two or three days up to months of recurring trouble. *Treatment* should be operative, either opening the mastoid, or laying bare the dura mater at the spot which is most tender to pressure on the skull.

Brain Abscess.—One-fourth or more of all cerebral abscesses are aural in origin. There may or may not be directly traceable connection with the suppurating surface in the ear. They arise nearly always from chronic, very rarely from acute, middle-ear suppuration. Oftenest in cerebrum, less often in cerebellum, may be single or multiple, connected or isolated.

Symptoms are as a rule not much marked in the early development of abscess, and may remain for a long time latent. Temperature curve offers but little aid in diagnosis. Headache is one of the most frequent symptoms of the intra-cranial tension, usually worse during a febrile attack, and sometimes distinctly localized, and much increased by percussion of the affected side. Less constantly occur other pressure symptoms, slowing of pulse, often very markedly, drowsiness, anomalies of respiration, dizziness in turning quickly. According to the location of the abscess we may have various focal symptoms, aphasia, pareses in the opposite side, disturbances of hearing in the opposite ear, strabismus, hemianopsia, disturbances in the course of the facial, pupils sometimes small, disturbances of intellect often entirely wanting, or only very slight. On the other hand disturbances of sensation can usually be noted. Convulsions occur not rarely. Paralyses appear but are very variable. But all symptoms may be wanting. Sometimes only a few days before death occur symptoms of irritation or depression, or perhaps only after rupture of the symptomless abscess into the ventricles follow the symptoms pointing to cerebral trouble; optic neuritis occurs but is by no means constant. The course of the disease is quite irregular, severe symptoms alternating with intermissions. The most important for *diagnosis* are, the continuous, extraordinarily severe, frequently localized, headache, which often continues even in the latent periods, also the evidences of brain pressure. An abscess in rare cases becomes latent and encapsulated; usually results in death in stupor, sometimes with apoplectic symptoms.

Treatment. Recently brain-abscess has been quite successfully treated by trephining, section of the meninges, removal of the brain substance surrounding the abscess, empting the abscess, curetting, antiseptic irrigation, drainage, packing with gauze.

Phlebitis, Thrombosis and Pyæmia.—The blood vessel walls may at times be bathed in pus for a long time without bad results, at other times, however, occurs inflammation or partial destruction of the same. If this is extensive, the result is great bleeding which may cause death. In smaller destructions, which are often on section scarcely discoverable, result phlebitis and thrombosis, and the entrance of pus products into the blood current. The most frequently affected are the sinus transversus on the inner side of the mastoid, less often the superior and inferior petrosal sinuses, the cavernous sinus, and in destruction of the inferior wall of the tympanic cavity, the bulbus venæ jugularis. It arises from direct contact of the vessel wall with a carious or necrotic part of the bone, or at times without perceptible changes in the bone. The most important and first symptom is a severe chill with subsequent very high temperature (105° or more), as opposed to abscess formation. The pains are frequently severe, localized in the region of the inflamed sinus wall, are increased by pressure; at first causes great restlessness, at times mild delirium, convulsive symptoms, great weakness, with occasional remission of symptoms; later great depression, coma and death. The remissions, in the beginning complete and of long duration, become all the time shorter and incomplete, so that after several rigors, no apyretic condition exists. Consciousness is usually unclouded till the last hours of life.

According to the veins affected, the symptoms vary, thus aiding a diagnosis of the seat of the thrombus. The transmission from the transverse sinus to the internal jugular vein may be recognized by an œdematous swelling along its course in the neck, or the vein appears on examination with the finger as a hard cord, which is usually very painful to pressure. By the inflammatory œdema in the surroundings of the vein, especially of the bulbus, the neighboring nerves, the vagus, the glosso-pharyngeal and the accessory may be affected with corresponding irritant or paralytic symptoms. From stoppage of the mastoid veins, emptying into the transverse sinus, results œdema limited to the mastoid process. If the thrombus extends to the cavernous sinus, we have in one or both sides œdema of the orbit, with exophthalmus and blindness, with perhaps swelling of the surrounding parts. Owing to the junction of the two transverse sinuses on the internal occipital protuberance, the thrombosis may extend from one to the other, and cause the same symptoms on the opposite side. If thrombotic material extends through the blood stream to other parts of the body, corresponding embolic processes develop. Through taking up of septic germs, pyæmia and its attendant symptoms result. Mistaking it

for meningitis and brain abscess is only probable in simultaneous occurrence of the sinus affection with these brain troubles. While in meningitis and abscess such intense rigors and high temperature never occur as in sinus thrombosis, we find in the latter the brain symptoms only slightly marked, consciousness being often not at all affected. Until very recently sinus thrombosis was regarded an almost uniformly fatal complication of middle-ear disease. At present, however, the operative treatment of this condition is receiving much attention. Zaufal in '80 and again in '84, suggested as a possible procedure ligature of the internal jugular, with opening and antiseptic irrigation of the lateral sinus. Within the past two years this suggestion has been put in practice by two English surgeons, Lane and Ballance, and following them by Salzer of Germany. They have reported nine operations with four deaths. The operation, as recommended, consists in tying the internal jugular vein, opening the mastoid process, if this has not been already done, then trephining through its inner plate. The sinus being thus reached and opened, is cleared of thrombi, pus, etc., thoroughly syringed with bichloride solution, which is forced from the upper, cut, end of the jugular upward through the bulb into the sinus, and vice versa. The sinus is then packed with sterilized or iodoform gauze. In the light of our present knowledge this is to be looked upon as a perfectly justifiable, life-saving operation, and one from which we may expect a very fair proportion of recoveries.

(*To be continued.*)

THE VIS MEDICATRIX NATURÆ.

BY CHARLES L. HOGEBOOM, M.D.,
Cedarhurst, N. Y.

Read before the Queens County Medical Society, January 31, 1893.

The restorative powers of nature have been observed from the time of the Father of Medicine, whose practice was often simply hygienic. If, however, Hippocrates could come among us to-day, he would be surprised and pleased at the great progress which medical science has made, especially in surgery.

But has there not been for some time a tendency to imagine that the powers of drugs have attained to such importance that those of nature do not receive sufficient attention? Medicines are

often great aids to nature, and are sometimes indispensable, as in the antiseptic treatment of wounds, and in antimalarial medication. There is no doubt about the efficacy of quinine and other alkaloids of Peruvian bark in intermittent fever, or of the action of opium and its active principles in allaying pain, or in quieting the action of the intestinal canal and inducing sleep without endangering the functions of vital centres; or of the influence of the preparations of mercury in restoring or regulating the functions of the liver, or in destroying various forms of bacilli.

But what *is* the "Vis Medicatrix Naturæ?" Is it an entity? Has it intelligence? Or is it connected with an intelligence so as to build up normal structure, or to form provisional structure? The examination of the subject involves in some degree questions which cannot be settled by any of the methods of physical research, and has somewhat of the metaphysical about it. If it involves phenomena which have a provisional or exceptional character it must also involve the question as to whether there is a supernatural power working according to a design. I say that this question is involved, for there will be no question if design is not acknowledged, and the "Vis Medicatrix" will simply rank as one of the vital powers. How is the argument affected if we regard this force as not independent of the tissues upon which it acts, and as evidence, offer the fact that different microbic elements attack different organs, and have different modes of deranging functions? Thus, that one kind of microbic contagion causes inflammation of the parotid glands, another finds its favorite habitat in the solitary, and their aggregation into Peyer's glands in the lower part of the ileum. Why is this? Is it not because the organisms, although they pass through the whole system, meet with no other organs furnishing material suited to their growth? Small-pox microbes induce the formation of large pustules upon the skin and mucous membranes, having a definite development unlike that in any other disease, and possessing an individuality of construction simulating that of an organic growth. If we pursue the question into the domain of therapeutics is there any satisfactory answer returned? The administration of aloes produces increased action of the rectum; that of cantharides irritates the uriniferous tubules and also the mucous coat of the bladder and the genito-urinary passages generally. Opium causes contraction of the circular muscular fibres of the iris. Belladonna relaxes them (or causes contraction of the radiating fibres). Is there any evidence of design in all these phenomena? There are those who cannot doubt it, and there are those who deny it.

A theory has within the last century, mostly within the last half, been formulated with much skill and advocated with great ability, which regards the creation and organization of the whole universe, and the commencement and development of life from lower to higher forms as successive acts of unconscious evolution. This is not an occasion for attacking or defending such theory, but it is proper to call attention to the fact that belief or unbelief in it must have an effect upon a man's belief that the "Vis Medicatrix Naturæ" differs from other vital forces, or that all such forces are not controlled by supernatural power. Suppose that a belief is formed that the restorative processes are merely the result of the interaction of physical forces and that they are like those of the formative or developing forces, which build up organic structures endowed with vitality and sensation; and that thought is merely the sequence or product of molecular change, will such a belief tend to destroy confidence in nature's provisional powers? Many will at once answer, "No, you may say that some of the efforts of nature are provisional and have the evidence of forethought, or you may deny it, but it will not affect the judgment of any one having common-sense." He believes just as much in the restorative powers of nature, whether he is an evolutionist or not. If the Vis Medicatrix Naturæ is an exceptional power designed by conscious intelligence where shall we seek for any evidence of it more than a general belief in an over-ruling Providence? It becomes quite evident, therefore, that the question of its nature cannot be settled any more than can the theological questions involved in the trial of Dr. Briggs for heresy. There may be more truth on one side, and more error on the other, but a man would be a bigot to say that one could not trust the forces of nature just as well from the standpoint of an evolutionist as from that of a believer in conscious creation. Nay, if pressed, the evolutionist might contend that his theory is more consistent with a belief in the constant action of the "Vis Medicatrix" than with a belief that it has endowments, beyond those possessed by the ordinary vital powers. The only difference is that the evolutionist contends that *all* vital forces have the essential powers of the "Vis Medicatrix" and that these powers are called into action whenever occasion requires by certain laws, and the believer in design can only controvert this position in his own case by saying that he *believes* that there is a higher and conscious power behind all phenomena. Therefore let us abandon the idea of ever obtaining a unity of doctrine in regard to the real existence of the "Vis Medicatrix Naturæ" unless the believer in creative design adopts the opinion that the *laws of nature* were instituted by the

Creator to act in the same manner as they are believed to by the evolutionist: that vital processes are not modified by special attributes, and that the reign of law is universal.

Let us, therefore, give up the search for this physiological "philosopher's stone" and turn the question to the consideration of the propriety of relying too much upon medicines or drugs, and vindicate the "Vis Medicatrix" as only one of the common soldiers in the ranks. We are all agreed that the vital forces carry on the functions of digestion nutrition, etc., in health without other aid than being supplied with the materials for growth and repair—pure air, wholesome food and beverages, exercise and cleanliness, to which must be added sufficient opportunity to sleep. When any of these requisites are not present what can be done to supply the deficiency? What else than to restore the substance or the condition which is deficient? We can for a while bridge over the deficiency by the use of drugs, but it will only be by a bridge and not a solid foundation. Such articles as tea and coffee will for a while sustain the nervous force, but they must soon be replaced by normal food. But when disease invades the system or accidents happen what is to be done? Rely on the powers of nature, or on medecine? Of course all will agree that nature is the main reliance whether medicine is administered or not; but how far are we to rely on medicine and on what kind of medicine? Is there not a tendency to regard the simple therapeutical action of a remedy without considering its relations to the nutritive processes—upon those which act directly upon the nervous system to the neglect of those which aid the functions by supplying material for secretion and nutrition? For instance, if the temperature is above the standard of health is not the use of antipyretics, which are capable of subduing the manifestations of the nervous system too often resorted to for reducing the temperature to that standard which the practitioner has determined it ought to be confined? "It is heat," he says, "an abnormal degree of heat, which is interfering with the vital functions. Therefore the mischievous heat must be got rid of, and at once." Does he consider sufficiently how far this heat is the result of certain physiological processes which are necessary for restoration to a normal condition? "Why!" he says, "nature herself has declared in physiological language that a certain limited range of temperature is the standard for each warm-blooded animal," and, therefore, he insists that there ought to be no variation, even in disease. But is he paying enough attention to the conditions of the system—regarding sufficiently the vital reactions as being the *cause* of the excess of heat, and does he sufficiently reflect that we should

first endeavor to alter those conditions by supplying the system with those medicines or foods and fluids which are needed for normal nutrition and secretion? It is the heat which is the most offensive obstacle in his mind; it favors microbic development, and microbic development, in turn, increases the temperature. "At all events," he says, "we cannot expect to have normal nutrition without a normal degree of temperature," without stopping to consider whether there can be normal nutrition in the presence of drugs which are interfering with the normal metabolism of the system. He contends (to be consistent he must contend) that his practice is simply guiding nature in proper channels, and if the advocate for constant interference were to base this opinion upon the theory that heat in excess in germ diseases may gradually have the temperature lowered by the administration of germicides he would perhaps gain a point; but he does not advance this argument, or has not, to my knowledge, for he uses medicines which act directly on the nervous system, and are not given because they are, or may be, germicides.

In discussing this subject of temperature let us take an example from that now familiar germ disease, influenza or the grip, which is often attended by a great increase in temperature. Now, what is the natural course of the disease in cases which recover without treatment? The patient is seized with pains in various parts of the body. He has sneezing and coryza, violent headache, connected with the frontal sinuses, he endures great suffering, he has various symptoms which would be out of place for me to enumerate, as you are all acquainted with them, but he arrives at a sweating stage, during which, if he or his attendants have common-sense he will be covered warmly and take warm drinks of various kinds. His sweating is profuse and continuous, if he keeps drinking and remains covered warmly. At last, perhaps with a remission, or it may be more than one, his sweating ceases, his pulse which had been extremely rapid falls toward the natural standard, but he does not regain his strength easily; his system remains out of order for an indefinite time, and he is liable to have a relapse. This sketch is, of course, somewhat imaginary, as such a case never occured in the experience of any physician; but I think that you will regard it as being not far out of the way.

Now, what is the course of the disease, even when severe if treated by warm applications, hot and stimulating beverages and a warm but well ventilated room? The tendency toward restoration is strong, the most urgent symptoms subside, and if the father of the eclectic or Thompsonian system were here to-day he would

boast of its success in stimulating the vital powers, producing sweating or increasing it, and throwing off the morbid elements, which we now believe are much the production of disease germs.

But what is the course of the disease when in addition to the above treatment the physician administers quinine, alkaline carbonates, and medicines of a like nature? Why, the system gets what it needs for supplying the different organs with materials necessary for their functionation, and the patient gets well faster and more permanently than without these medicines.

Now, what is the course of the disease when under treatment by antipyretics and analgesics? I am now placed at a disadvantage, I cannot answer from my own experience, and must abide by the judgment of others who have used these medicines as to whether my statements are true, which are made from published reports, from conversations with others, and from the criticisms contained in some of the medical journals. I must admit that a majority of the reports rather favor the antipyretic treatment, but I believe that many cases treated successfully without antipyretics have not been reported, and in far greater proportion than the antipyretically treated cases. The new remedies have, naturally enough, been sought to be extolled by their advocates, and therefore more often published.

From all the evidence which I have gathered I am forced to the conclusion that the antipyretic treatment is attended by many relapses and troublesome sequelæ, notably pneumonia. Are there any statistics carefully gathered and reliable, tending to throw light on the question? I must confess that I do not know. As far as my observation goes, patients treated in this way get around slowly, remain in a weak condition for a long time and return to their occupations with impaired energy. Can it be that the observations of the majority of medical men point to the contrary?

If the abnormal temperature in disease could be reduced by antipyretics without weakening the ganglionic nerve force, it might perhaps be advisable in some cases; but I cannot conceive that a rapid reduction of temperature by the internal administration of medicines is consistent with a normal return to normal function. We may imagine that we have accomplished such a result, but it is impossible to say what has been the effect upon the metabolic changes which accompany nutrition. Any medicine which is likely to weaken the heart's action is also likely, if it does not do so in a great degree, to play a treacherous part in deranging physiological functions, which may be so masked as not to be readily perceptible. A normal reduction of temperature would appear to be connected with or caused by the operations of nature,

or if we may use the phrase, accomplished by the "Vis Medicatrix Naturæ." A sudden reduction implies a sudden reduction of some important element of vital force, which is probably the effect of a partial arrest or derangement of nutrition which the nerve-cells constantly demand. What I would consider the natural method of reducing the temperature, in *cases where we know that it is higher* than it ought to *be under the circumstances*, seems to be the better course. There need be no alarm at symptoms which experience has shown not to be alarming. It is the *cause* of the abnormal degree of heat which needs attention. Don't imagine that when you are reducing the temperature in typhoid fever you are thereby encouraging restoration unless you are working in the direction of improving the nutrition, and especially the functions of the glandular system. Brandy and quinine, and the alkaline carbonates, particularly of soda, with diaphoretics, alteratives, etc., as may be thought proper, will encourage restoration better than any other treatment, unless I am much mistaken. Typhoid fever is a disease which runs a definite course as to time, and it is not probable that this can be shortened without hurtful consequences. The great desideratum is to reëstablish the secretions, get the tongue moist, and the skin also, as soon as possible. The insomnia and other distressing symptoms will soon subside in a great measure and the patient pass his twenty-one days, with good nursing, in comparative comfort. The medicines just named, and others of a similar nature, are the true servants of the "Vis Medicatrix." They will assist in the processes of nutrition and secretion in a way which is readily explained on physiological principles, and so remove our practice as far as possible from empiricism.

But let us not be so wrapped up in our theories as to prevent the discovery of truths which lie in the pathway of investigation; let us not condemn antipyrine because it often unexpectedly acts injuriously upon the pneumogastric nerve or its cardiac branch; or its distant relative sulfonal, or its cousin, phenacetine, because their use has sometimes been misdirected. Dr. H. M. Lee, of Knoxville, Tenn., reports the results of some interesting tests made by him in the topical application of phenacetine. He enumerates several remedies which he had tried in ulcerative conditions without satisfactory results. At last he tried finely-powdered phenacetine, which was dusted over the ulcerations. "The effect was remarkable, and dated from the first application." Other successful cases are described which seem to place phenacetine high in the list of antiseptics and encouragers of healthy granulation. If it is such, let it be used to clear the way for the action of the restorative powers

of nature, which alone can solve the intricate problems of the assimilating and secreting functions, and keep the nerve-cells in their normal relations to the tissues to which they are joined, or in which they rest. Nature, alone, is capable of squaring the physiological circle, as she is of squaring the geometrical circle, or of solving the problems of all the curves. Man can only approximate by methods of geometry and the calculus. And in therapeutics also he can only approximate and offer crude substitutes for nature's powers.

The uses to which some of the coal oil products have been put as hypnotics, as well as other substances, such as chloral, bromide of potassium, and other bromides, I believe are founded on misconceptions of the physiological conditions of sleep. Good, refreshing sleep, which really, and not seemingly, restores the powers of the body and mind, cannot be obtained at the cost of nerve-strength, or by any induced, abnormal change in nerve substance. The natural functions ought not to be interfered with except when medicines or foods assist the processes of nutrition, or at least do not oppose them. The nerve tissues must find their proper pabulum among the capillaries and other tissues by which they are surrounded and by which they are nourished. Is there not sufficient evidence that heart failure and nervous derangement have too often resulted from the use of hypnotics to form a rational belief that such employment of these agents is not consistent with that equipoise of bodily and mental functions which is necessary for refreshing sleep?

There are many cases, however, of daily occurrence when something has to be done to calm excitement and allay pain, to calm the heart's action, or to increase its force, and for other purposes needless to mention here which cannot be accomplished by medicines which are specially suited to the physiological needs of the system, or to the combatting of malarial or other pathological conditions. The most wisely selected aliment accompanied by those medicines which aid by their substance the physiological functions are not competent to afford temporary or momentary relief. An opiate, or a hypnotic is sometimes imperatively demanded, and the physician who would refuse to administer a medicine which did not square with his ideas of therapeutics, and which his professional brethren testify that they have found beneficial, would show himself to be a greater bigot than a religious monomaniac who would refuse assistance in time of danger from an opponent of his creed, and would be guilty of an act of cruelty to his patient which would prove him totally unfit to practice a humane and liberal profession.

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EDITORIAL.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The annual meeting of the State Society, under the presidency of Dr. L. S. Pilcher was one of the most successful ever held. The papers read were of unusual merit and interest. The inaugural address of the President was pregnant with suggestions which, if carried into effect, will have an important influence on medical education for a generation to come, while his address on the "Evolution of the American Surgeon" was a masterly presentation of the claims of the American surgeon to the proud position he occupies in the medical world. The following are the names of Brooklyn physicians who contributed papers, with the titles of their papers: J. L. Kortright, "The Registration of Midwives;" Charles Jewett, "The Clinical Limitations of Symphysiotomy;" J. H. Hunt, "Epitaphs from the Tombstones of Medical History;" G. M. Sternberg, "Micrographic Demonstrations of the Biological Characters of the Cholera Spirillum;" J. S. Wight, "The Value of Internal Medication in the Treatment of Carcinoma;" J. Fuhs, "The Methods of Obtaining and Examining the Contents of the

Stomach in Disease for Purposes of Diagnosis;" William Browning, "The Epileptic Interval, its Phenomena and their Importance as a Guide to Treatment."

THE NEW BUILDING OF THE COUNTY SOCIETY.

The annual meeting of the Medical Society of the County of Kings will long be remembered as one of the most important the Society has ever held. The insufficient accommodations of the present building have been painfully apparent to every member, and the rapidly increasing membership, together with the accumulating library which has taken giant strides under the fostering care of the Librarian, Dr. Browning, has made imperative a new building which shall be equal to the needs of the Society. The discussion which was participated in by many of the members, and which is reported in full in the supplement, brought into prominence the essential features which this building should possess, and the Society acted wisely in referring the whole matter to the trustees, in which body everyone has implicit confidence. The determination of the site and the thousand and one subjects which must be settled may well be left with such men as Drs. A. J. C. Skene, W. B. Chase, A. Ross Matheson, Z. T. Emery and F. E. West.

THE FIRST SYMPHYSIOTOMY.

The Womans' Medical Journal gives the credit to Philadelphia for the first performance of this operation in this country. The fact is that it was first done in Brooklyn, by Prof. Charles Jewett of Long Island College Hospital.

ECCLES VERSUS RADAM.

It will be remembered by our readers that some time ago Dr. R. G. Eccles published in the *Druggists' Circular* the result of his analysis of Radam's Microbe Killer, stating that it contained sulphuric, sulphurous, and hydrochloric acids, together with some wine and water. In a paper published in the West, Mr. Radam denied the correctness of Dr. Eccles' analysis, and spoke of the Doctor as a quack and a charlatan. For this libel Dr. Eccles commenced suit and has been awarded damages to the amount of $6,000.

LONG ISLAND COLLEGE HOSPITAL.

At a recent meeting of the Regents of this institution Dr. A. J. C. Skene was elected President of the College, being unanimously nominated by the Council and the Faculties of the College and Hospital. Dr. J. S. Wight was in like manner elected Dean of the Faculties.

DR. A. J. DOWER AND THE BOARD OF EDUCATION.

Mayor Boody has appointed Dr. A. J. Dower a member of the Board of Education of the City of Brooklyn. The medical profession is well represented in the present board, the other representatives being Drs. J. Harrigan, H. C. McLean and A. R. Jarrett.

PRIVATE SANATORIUM.

The need of a place to which physicians may send patients from boarding-houses or hotels, and still be able to keep them under their own care, has long been felt. Such an institution has just been established at 91 Sixth Avenue, as noticed in our advertising columns, by Miss Smith, recommended to us as a most competent nurse by one of the best-known physicians of the city. The profession will, we are confident, be glad to know that there is a private resort of this kind, free from the objections which many sensitive patients believe to exist in hospitals.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Rooms, 356 Bridge Street, on Tuesday evening, February 21, 1893, at 8 o'clock.

There were about 100 members present.

The President, Dr. John C. Shaw, in the chair.

The Council reported favorably upon the following named applicants and recommended that they be elected to membership:

Drs. H. E. Fraser, H. S. Pettit, Wm. Kinne, Chas. A. Smith, Wm. E. Sullivan, W. H. Rankin, Edward E. Baker, J. Elliott Langstaff, F. G. Winter, A. J. Blanchard.

The Secretary presented the following applications for membership:

Dr. Lloyd Thompson, cor. Franklin Ave. and Quincy St., Dartmouth Medical College, 1892; proposed by Dr. Jos. H. Hunt; Dr. Walter B. Chase.

Dr. James Sears Waterman, 530 Nostrand Ave., College of Physicians and Surgeons, N. Y., 1889; proposed by Dr. Walter C. Wood; Dr. R. L. Dickinson.

Dr. A. Arbona, East N. Y. Ave. and Powell St., L.I.C.H , 1887; proposed by Dr. Geo. E. Law; Dr. E. P. Hickok

Dr. H. Le Grand Kerr, 180 Adelphi St., Bellevue, 1892; proposed by Dr. Wm. C. Braislin; Dr. Z. T. Emery.

Dr. Ezra H. Wilson, 194 Keap St., College Physicians and Surgeons, N. Y., 1882; proposed by Dr. Geo. McNaughton; Dr. Wm. Browning.

Dr. Warren S. Simmons, Jr., College Physicians and Surgeons, N. Y., 1892; proposed by Dr. Geo. G. Hopkins; Dr. Geo. McNaughton.

Dr. Ernest S. Bishop, 99 Franklin Ave., College of Physicians and Surgeons, N. Y., 1892; proposed by Dr. Geo. G. Hopkins; Dr. Geo. McNaughton.

Dr. Hallock R. Maine, 24 Seventh Ave., College of Physicians and Surgeons, N. Y., 1888; proposed by Dr. Wm. Browning; Dr. Z. T. Emery.

Dr. Ashley A. Webber, 165 North 6th St., University of City of N. Y., 1888; proposed by Dr. Wm. A. Delong; Dr. David Myerle.

Dr. Vincent Gomez, 359 Ninth St., L.I.C.H., 1892; proposed by Dr. F. E. West; Dr. Wm. M. Hutchinson.

Dr. Wm. C. Gardner, 138 Clinton St., L.I.C.H., 1892; proposed by Dr. F. E. West; Dr. Wm. M. Hutchinson.

Dr. Harry P. De Forrest, 94 Seventh Ave., College of Physicians and Surgeons, N. Y., 1890; proposed by Dr H. B. Delatour; Dr. H. De Haven Cameron.

Dr. J. Scott Wood, 107 Sixth Ave., Bellevue, 1886; proposed by Dr. F. E. West; Dr. David Myerle.

Dr. Herman C. Riggs, 117 Montague St., College of Physicians and Surgeons, N. Y., 1890; proposed by Dr. F. E. West; Dr. David Myerle.

Dr. Richard Ward Westbrook, St. Mary's Hospital, Yale University, 1891; proposed by Dr. J. M. Winfield; Dr. A. J. Bristow.

Dr. James Thomas Gallagher, St. Mary's Hospital, College of Physicians and Surgeons, N. Y., 1892; proposed by Dr. J. M. Winfield; Dr. A. J. Bristow.

Dr. Henry Vaughan Byrne, St. Mary's Hospital, University of Vermont, 1892; proposed by Dr. J. M. Winfield; Dr. A. J. Bristow.

The Secretary stated that pursuant to the resolution adopted at the December meeting, authorizing the officers of the Society to request the membe s of the House of Representatives and Congress to use their influence for the passage of a National quarantine law —the Representatives from Kings County had been duly communicated with, and the following response from Mr. Coombs had been received:

"House of Representatives, U. S.

"Washington, D. C., Feb'y 15, 1893.

"David Myerle, M.D., Secretary Medical Society of the County of Kings, Brooklyn, N. Y.

"Dear Sir:—Your esteemed favor of 10th is received. I am in favor of a measure more distinctly national in its character than the one which has just passed the House and Senate, but it was the best that we could do. It gives the General Government the power if it chooses to exercise it, and I believe that it will.

"Sincerely,

"William J. Coombs."

On motion this communication was received and placed on file.

The Report of the Delegates to the State Medical Society being called for, Dr. Geo. McNaughton, in their behalf, stated that he was not prepared to present his report, but would do so at the next meeting.

NEW BUSINESS.

Dr. Walter B. Chase stated that the date of the annual meeting of the Alumni Association of the Long Island College Hospital (March 21st) fell on the date of the regular March meeting of this Society, and moved;

"That the By-Laws be temporarily suspended, and that the regular March meeting of the Medical Society of the County of Kings be held on Thursday, the 23rd day of March, instead of on the third Tuesday." Seconded and carried; so ordered.

There being no further business, on motion the meeting adjourned.

David Myerle, M.D.,
Secretary.

BROOKLYN PATHOLOGICAL SOCIETY.

The three-hundred-forty third regular and ANNUAL BUSINESS meeting was held at 356 Bridge St., Thursday evening, January 12, 1893, the President, Joshua M. Van Cott, presiding.

The Secretary reported the Society to be in a very flourishing condition, showing an evident increase in the interest taken in the Society and its work by the members of the profession generally.

This is due no doubt to the continuance of the policy of the year before and in large measure also to the able management of the executive officer. We are in possession of a blackboard, case of instruments for pathological and histological work, a Bausch and Lomb microscope and appurtenances, and a fine oxy-hydrogen projecting lantern, which latter contributed in no small way to the interes' and success of the papers read before the Society.

We have had a number of able speakers from the ranks of prominent pathologists of Brooklyn and New York during the year, and the increased attendance upon the meetings speaks for the interest shown in the speakers and the subjects discussed.

Nine members have been added during the year, 1 lost by resignation, 2 lost by death, and 7 dropped for non-payment of dues. Total membership 94.

The Treasurer reported

Balance on hand Jan. 1, 1892	$152.12
Receipts from dues, etc., during year	92.00
Total	244.12
Total expended during year	234.85
Balance on hand Jan. 1, 1893	9.27

The following officers were elected by unanimous vote:

President, Joshua M. Van Cott, Jr.; Vice-President, Wm. N. Belcher; Secretary, Frederic J. Shoop; Treasurer, J. M. Clayland.

The fixing of dues for the present year was laid over until next meeting. Adjourned.

FREDERIC J. SHOOP,
Secretary.

The three-hundred-forty-fourth regular meeting was held at 356 Bridge St., Thursday evening, February 9, 1893.

Dr. G. M. Sternberg gave an exceedingly interesting discourse upon Yellow Fever and the micro-organisms discovered from time to time, and supposed by their enthusiastic discoverers to be the

cause of that disease. The paper was supplemented by an excellent collection of lantern slides from micro-photographs of those organisms.

The Secretary was appointed to assist Dr. Browning, the Librarian, in looking after the Pathological division of the library.

Dr. Benj. E. Bostwick and Dr. Harry Creamer were elected to membership.

The name of Dr. John O. Polak, graduate of L.I.C.H., 1891; Seventh Ave., was proposed by Dr. Belcher.

The dues for current year were fixed at $2.00.

The Committee on Microscopy was appointed as follows:—Dr. E. H. Wilson, Chairman; Dr. W. N. Belcher, and Dr. Francis Peele, members. Adjourned. FREDERIC J. SHOOP, *Secretary.*

At a recent meeting of the Brooklyn Pathological Society, the constitution was so amended as to make it no longer necessary for applicants to present specimens or to read papers in order to become eligible for membership in the Society.

Any physician, in good and regular standing, may now become a member, providing his name has been brought before the Society in accordance with the by-laws, and upon the payment of an initiation fee of two dollars. In taking this action, it is not the desire of the Society to do away with the reading of papers or of the presentation of specimens; on the contrary, members are urged to present material and to report all cases likely to be of general interest and value, but rather to remove such restrictions to membership which may now tend to prevent the busy practitioner from joining the Society.

It is now, as in the past, the desire and intention of this Society to treat of Pathology as related to Clinical Medicine, thus presenting subjects in their most valuable form from a practical as well as from a scientific standpoint. Much valuable morbid material is constantly being presented at the meetings of this Society, together with the clinical history and the general consideration of the case from which the material may have been obtained, the discussion of which cannot fail to be of value to all physicians.

BROOKLYN GYNÆCOLOGICAL SOCIETY.

A regular monthly meeting of the Brooklyn Gynecological Society was held at the Society Rooms, 356 Bridge Street, on Friday evening, January 6, 1893 at 8.30 o'clock.

The President, Dr. Walter B. Chase, in the chair.

There were present, Drs. Raymond, F. Baldwin, Chase, Hyde, Kortright, Skene, Butler, Corcoran, McNaughton, Matheson, Dickinson, W. H. Skene, and L. G. Baldwin.

The minutes of the December meeting were read and approved.

The paper of the evening entitled, "Vaginismus, with Report of a Case," by Dr. L. Grant Baldwin, was read, and discussed by Drs. Skene, Dickinson, and Chase.

EXECUTIVE SESSION.

Dr. Hyde reported that he had received from the Secretary of the American Gynæcological Society, a complete set of the reports of that Society, in seventeen volumes, in recognition of the courtesies extended to its members by the Brooklyn Society, during their meeting in Brooklyn in September, 1892.

On motion of Dr. Raymond the books were received, and Dr. Hyde was requested to convey to the American Gynæcological Society the thanks of this Society for the above works.

On motion adjourned.

L. Grant Baldwin,
Secretary.

A regular monthly meeting of the Brooklyn Gynæcological Society was held at the Society Rooms, 356 Bridge Street, on Friday evening, February 3, 1893, at 8.30 o'clock.

The President, Dr. Walter B. Chase, in the chair.

Present:—Drs. Chase, F. Baldwin, Butler, Jewett, Maddren, Hyde, L. G. Langstaff, Kortright, Gordon, Dickinson, and L. G. Baldwin.

PRESENTATION OF INSTRUMENTS.

Dr. Charles Jewett presented a readily improvised apparatus for the purpose of injecting glycerine into the uterus to induce labor. It consisted of an ordinary No. 10 or 12 English catheter with the proximal end cut off, the stylet cut an inch shorter than the catheter, and the ring end hammered down and passed first to prevent the stylet from perforating the catheter and puncturing the uterus. To the proximal end of the catheter was fitted an ordinary bulb syringe which acted as the injector.

He had found its use valuable too, in cases of rigid cervix, due to faulty uterine contractions.

The injection is made very gradually to allow time for the diffusion of the fluid.

The quantity of glycerine should be from two to four ounces, and the injection should be carried as high as possible between the membranes—not less than six or eight inches. The entire apparatus and the injecting fluid should be sterilized by exposure to boiling water or steam for an hour immediately before use. Precautions must be taken to prevent the introduction of air into the uterus. In his experience this had proven by far the most prompt and reliable method of inducing labor that he had yet employed. Active labor had been invariably established within two or three hours.

Dr. G. R. Butler testified to the value of the glycerine injection in a difficult case of eclampsia, where he was able to bring on labor in three hours after its use.

Dr. Chase asked at what stage of gestation it would operate to produce labor.

Dr. Jewett replied that the glycerine properly introduced between the membranes would undoubtedly set up uterine contractions at any stage of gestation, but its use was intended for the induction of premature labor—in other words for the last two or three months of pregnancy.

Dr. Glentworth R. Butler read the paper of the evening, "On the Importance of Constitutional Treatment in Pelvic Lesions."

Discussion by Drs. Jewett Dickinson and Chase.

NARRATION OF CASES.

Dr. Frank Baldwin related a case of a pregnant woman at the seventh month who fell on the ice striking herself in the abdomen. She suffered from temporary distress but within a week the trouble passed away. She was confined in due course; breech presentation, with dystocia; child born alive but died in twenty minutes; death due to depression of the skull, there being on the left frontal eminence a depression deep enough to hold the contents of a dessert spoon or more, evidently due to the injury to the mother. The case showed the amount of injury a child may sustain in utero and live. Discussion by Dr. Dickinson.

Dr. R. L. Dickinson related the case of a young, unmarried, somewhat imbecile girl, a domestic, who in attempting to douche herself with a large glass syringe broke off the upper third of the syringe in vaginam. Three days after the occurrence Dr. Dickinson saw the patient and she then had in her vagina seven pieces of glass, most of them with sharp angles, some of them very narrow and long, two of them having buried their points in the vagina a quarter of an inch. She suffered practically no inconvenience during the three days these were in the vagina, showing how well

the soft parts adapt themselves to these foreign bodies. The tolerance of the vagina, however, may have been due to the fact that the patient was evidently an advanced masturbator, and in the habit of using some instrument for vaginal masturbation.

EXECUTIVE SESSION.

The following proposition for membership was submitted:

Dr. Wm. H. Skene; proposed by Dr. L. Grant Baldwin; seconded by Drs. Geo. McNaughton, W. B. Chase, and Charles Jewett.

Dr. Wm. Maddren moved the adoption of the following amendment to the By-Laws; due notice of the same having been given:

Amend Section 5 of Chapter 2, to read:

"An affirmative vote of four-fifths of the *members voting* shall be requisite for the election of a Fellow."

This amendment was unanimously adopted.

Dr. Chase suggested the propriety of having an official seal made for the Society, and stated that he had consulted with Dr. Dickinson, who was of the same opinion.

After some discussion, on motion of Dr. Butler, Dr. Dickinson was appointed a Committee of one to devise an appropriate seal for the Society, and report the expense to be involved in its preparation.

There being no further business the meeting adjourned.

L. GRANT BALDWIN,
Secretary.

BROOKLYN SURGICAL SOCIETY.

Seventy-sixth regular meeting, Dr. Wackerhagen, acting chairman.

SCIENTIFIC BUSINESS.

Report of cases.

Continuous Supra-pubic Drainage of the Bladder for the Relief of Urinary Retention and Intractable Cystitis due to Enlarged Prostate. Dr. Pilcher:—Mr. Chairman, I have two cases that I wish to present this evening here, in illustration of a possible method of dealing with intractable irritation of the bladder arising from enlargement of the prostate gland. The rapidity with which symptoms of aggravated suffering may arise in those unfortunate patients who become the subject of such enlargement of the prostate gland as to prevent a spontaneous emptying of the bladder,

must vary greatly. It is not infrequently the case that patients may for many years be able to use a catheter so skillfuly and may escape such indirect difficulties from the establishment of inflammatory conditions within the bladder, as never to feel a need of other relief than that which they are able to afford themselves by the use of the catheter. And yet, it is not an unusual thing that even in these cases there are remote results, in the establishment of inflammatory conditions of the upper urinary tract which although not recognized, are all the same due to the necessary continuance of the use of a catheter, and the inflammatory conditions excited by it. It is rather to be expected, it seems to me, if I may form any conclusion from the personal observations which I have been able to make, that, sooner or later, when a patient becomes compelled to depend on the catheter for relief, serious trouble will develop, demanding surgical relief in some way. It is only within a few years that attempts have been made to accomplish this relief by opening the bladder and by removing the enlarged prostatic portions by operative measures. The successes which were published by the surgeons of Leeds, led by the late Mr. McGill, in England, and Kümmell, and others in Germany, are such as have tended to arouse in the minds of surgeons considerable hopefulness as to the possibilities of relief in this direction.

Stimulated by the results obtained by these gentlemen I began to operate in this manner myself. It is now four years since the first operation of the kind was undertaken by myself upon a patient that was thoroughly shattered, in an extremely desperate condition, as the result of continuous suffering from chronic cystitis, and retention of the urine due to an enlarged prostate. He had already been operated upon for the removal of calculus by median perineal sections, but without relief to his other sufferings.

I operated by the perineal section, removing a large slice of the collar of a large prostate which was felt by the finger as it was passed into the bladder through the perineal incision. The patient bore the operation well. The wounds were plugged with iodoform gauze. Within thirty-six hours thereafter he began to evince symptoms of mental alienation, becoming quite violent. Together with this, there was a very considerable diminution in the amount of urine, and alteration in its character, and within three or four days from the time of the operation, he died apparently from acute uræmia. I supposed at the time that his symptoms were mixed with iodoform intoxication, and I am still under the impression that the absorption of iodoform had much to do with the unfortunate termination of the case. As regards the operation itself I was not

satisfied with the limited freedom of access to the parts, which the perineal section gave, and I have not operated by perineal section since.

In three more instances I have since had occasion to operate upon patients who were suffering from enlarged prostates, with inability to empty the bladder, and with chronic cystitis. In all of them I found calculi also present, and strange enough in all of them the enlargement of the prostate which produced the obstruction was comparatively slight, being a uvula-like enlargement of the median lobe, which acted as a valve, dropping into the internal orifice of the urethra. In each of these cases at the time of the operation I excised this median uvula-like hypertrophy. The operation in all of them was facile; a certain amount of bleeding took place, but not to an undue extent, except in one case. They were all in a desperate condition at the time they were operated upon. They had been suffering for a long time some of them, and had had repeated operations before. They all three survived the operation but a few days, dying from exhaustion and uræmia.

The result of these efforts upon my part were such as to cause me to feel that for awhile at least I should seek for other means of dealing with these cases of enlarged prostate. In the course of last winter, early in the present year, the patient whom I shall first present to you came under my observation, suffering from great irritation of the bladder, inability to empty the bladder except imperfectly at times, demanding the use of a catheter continually, his early symptoms having arisen with an apparent inability to retain urine, which was due to over-distention of the bladder. He began to use the catheter and being a very intelligent man he used it intelligently. Irrigations of the bladder were also instituted. During the following weeks he had variations of improvement and of increased suffering, until finally his condition became so aggravated that interference operatively seemed to be required. Accordingly in April last I submitted him to a supra-pubic cystotomy. Examination of the open bladder showed a diffuse enlargement of the prostate gland; there was a general congestion of the mucous membrane of the bladder. In this case I contented myself with simply placing a drainage tube through the supra-pubic wound. I was much gratified to find from the first that the drainage through this tube was quite complete, so that he suffered very little at all from the leakage of the urine over the pubes. He suffered, however, a great deal of pain referred to the penis itself. That after some time gradually diminished, and has now ceased. During the summer he remained under the care of Dr. Bogart, who adapted to

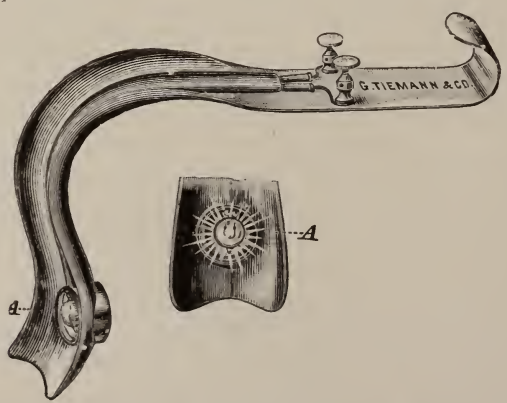
him a permanent drainage tube for a time, producing continuous drainage of the bladder, by emptying into a rubber bag which was strapped to his leg, which he wore for some months. After my return home, he coming again under my care, we dispensed with this urinal and substituted an ordinary stop-cock, placed in the drainage tube of exit, and through this as occasion requires he empties his bladder. He has kindly consented to permit me to demonstrate the method that has been employed for him and its use, and is here for that purpose now. There is still some slight catarrhal condition of the bladder for which he has a daily irrigation of an antiseptic solution. He is quite comfortable during the day as a rule. He can retain his water from two to four hours. He has suffered a great deal, particularly at night; after an hour or two of sleep he would be waked up by a great deal of pain in the bladder, and in the rectum, and often darting to the penis, which would necessitate his getting up and walking about in order to relieve it, and he has for some time been disturbed in that way for a number of hours every night. A few days ago I advised him to use the irrigations in the evening, just before retiring, and as a result of that he informs me that for the last two nights he has had quiet nights' rest.

The method of retaining the drainage tube in the supra-pubic wound is by the use of a simple hard rubber shield, which indeed was devised by Dr. Bangs, of New York, for that particular purpose, through which a soft rubber tube passes pretty snugly, projecting well into the cavity of the bladder. The patient himself prefers this method of relieving the bladder to the passing of the catheter as he was formerly compelled to do. When I asked if it was a choice between having to pass his urine daily all the rest of his life by a catheter, or wearing this supra-pubic tube, which he would choose, he told me he would prefer to wear this.

In my ward on my return home this summer I found another gentleman who was suffering from the same series of symptoms as I have described in connection with the patient which has just been presented. He had suffered many years, and had been obliged to use a catheter for six or seven years. More recently he had developed a great deal of constant pain in the bladder, and was suffering agony continually, having to pass a catheter for the purpose of relieving himself at very short intervals. It was thought that possibly a stone in the bladder might be present. He had been examined repeatedly for stone, and none had been detected. He was again examined by myself, and the evidences were not very well marked, but still it seemed to me that I got a roughness

which might possibly be due to small calculus, and he consented to have a supra-pubic cystotomy done. Upon opening the bladder there were detected by the finger deep in the sulcus behind a mass of hypertrophied prostate three calculi, one large and two small ones. And here again there was present a peculiar tongue-like elongated median lobe of the prostate, about the size of the first joint of my index finger, which stood up like a nipple, playing back and forth at the entrance to the urethra. And I assure you it demanded all my self-control to prevent me from cutting it off, but I did not do it. After the removal of the calculi I treated him in the same manner as I did the previous patient. He has had an uninterrupted recovery in the four weeks since the operation. A few days since I was able to adapt for him the instrument for permanent drainage which has already been described, and I present him now for the purpose of furthur demonstrating the manner in which it is working.

In connection with these cases I present some instruments which I have devised for facilitating explorations of the cavity of the bladder through the supra-pubic opening. And first I want to present some retractors, the peculiar curve of which is especially adapted to allow of their being passed into the bladder, and then as they are drawn upon they tend to separate the walls of the bladder laterally without making any undue strain upon the supra-pubic aperture, thus bringing to view the interior. For retracting the upper wall of the bladder I have had made a somewhat broader retractor in the concavity of which at its lower end is placed an electric lamp.



In order to complete what I have to say on this subject, if I might be permitted to present a specimen I would like to do so. Last week I was called to see an old gentleman seventy-five years

of age, in the practice of Dr. Scott, of this city. He was suffering from an enlarged prostate, and had finally developed very critical symptoms, with constant pain, being up and down continually, having to pass a catheter every half hour. He was going rapidly from bad to worse. An immediate cystotomy was advised. An examination made for stone before the cystotomy was negative, although at one time I thought with my searcher that I got a little grating which gave me reason to expect a calculus was present. A cystotomy was made and an unusually large collar-like enlargement of the prostate was found to be present. There was a general cystitis, and in the deep pouch behind the hypertrophied prostate were these three calculi. The operation was done over the pubes. The patient stood the operation well; he rallied from it perfectly and was comfortable in the evening. During the night he began to vomit some bloody fluid. When I saw him next morning he presented all the symptoms of a patient dying from acute anæmia, and within a few minutes after I saw him he vomited a quart or more of fluid blood, and expired, dying from an hæmorrhage of the stomach, a complication apparently only indirectly, if at all, connected with his bladder conditions. I mention it, however, as one of the ways in which we may suffer defeat even with our best directed efforts.

Dr. Bogart:—I do not think that I would do justice to these cases, the treatment of all of which except the last I have had an opportunity of witnessing, if I did not give my unqualified endorsement to the conclusions arrived at. In the earlier ones something more radical was attempted, and the patients rallied from the operation well, but gradually slipped away, no effort seeming to be of any avail in averting the fatal issue. It is difficult to comprehend how so apparently slight a difference in treatment could make so profound a difference in the result. Although I have had occasion to make the supra-pubic section a number of times I have never made it for cases of enlarged prostate. Yet I have become so thoroughly convinced by the results obtained in these cases that I should certainly refrain from doing anything more than was absolutely necessary in a first operation. It seems to me that the last case especially is a very encouraging one. It is only four weeks since this man was operated upon. and now he comes before us passing his urine with very much more comfort and only one-quarter as often as he did with the catheter, and certainly with perfect safety, while the progress of the case which has been operated upon for a longer time shows a more perfect result. The doctor himself has stated that if it seemed desirable in any of these

cases he would add a later operation for the relief of the obstruction, but up to the present time they have done so well that neither patient nor surgeon has felt the necessity of doing anything more.

Papers:

Doctor J. H. H. Burge then read the papers of the evening, (1) Point of Election in Laparotomy after Wounds of the Abdomen; (2) Incarnation of the Great Toe Nail.

Specimens:

Dr. Pilcher presented a specimen from a gastro-enterotomy recently performed for carcinoma of the pylorus.

Dr. Pilcher:—The patient was a young man thirty-two years of age, who had suffered for more than a year from an ill-defined trouble, which during the last six months had become more pronounced, in his stomach. For the last two months he had been able to retain no food at all, and had been nourished through the skin and rectum.

I operated upon him on Monday. The abdomen was very much shrunken, as was to be expected. The recti muscles were in a state of hardened contraction, so much so that they had interfered with the ability to fully appreciate the condition of the tissues which were in the upper part of the epigastric region, so that no tumor had been felt, for which reason operative treatment had been delayed. The patient being unrelieved by all the methods which had been adopted which should have been sufficient in a less severe case, he was brought to an operation. When the abdomen was opened the infiltrated pylorus was detected at once readily, and the character of the case being appreciated, without delay we proceeded to the making of an anastomosis between the beginning of the jejunum and the stomach. The stomach being well drawn out it was held in place by a suitable clamp. There was a continual tendency for the stomach to pull away from the grasp of the clamp, and it had to be readjusted from time to time. There was no trouble with the intestine, which was included in a similar clamp and brought out so as to be supported upon the abdominal wall. I had no difficulty in identifying the small gut as it came out from underneath the mesentery. By passing my finger along the side of the stomach, I hooked up the loop of the small intestine, and was able to determine without doubt that I had the beginning of the jejunum. Rotating it half about, to cause the peristaltic action of the intestine to be in the same direction as the peristaltic action in the stomach I proceeded to the operation. First bringing up the intestine alongside of the stomach I put in one row of sutures along the whole length of about three inches of the anterior wall of the

stomach, and then about a quarter of an inch more anteriorly I put in a second row. Then a little in advance of that the intestine being fastened to the anterior wall of the stomach by the two parallel rows of sutures, I made an incision through the stomach wall and similarly an incision through the wall of the small intestine. Then the incision through the stomach and small intestine lying side by side, I whipped them over and over with a continuous suture from end to end of the incision. I had now one-half of the incision of the stomach and one-half of the incision of the intestine fastened together by three rows of sutures. As the incisions were made in the gastric intestinal mucous membranes, whatever vessels bled were seized, and as I whipped these over, the threads occluded them so that I was able to do away with forceps. I proceeded with this whipping around the portions of the incisions which were not yet attached, in order to retain the mucous membranes and serous membranes in proper relation to each other. The next step was to bring together the anterior edges of the incision by an over and over suture, which I did. Then I put a second line of sutures which took only the serous surfaces continuing it clear around until it met a similar line from below, and then a second line to cover that in until that met an outer line of the suture below. So when I had finished I had the whole line of the incision securely surrounded by the three continuous lines of the suture throughout.

The patient bore the operation well. It took about an hour to make this anastomosis. The patient was under operation for an hour and a half. He reacted well from the operation, and at the end of twelve hours I found him comfortable, free from pain and in an excellent state; the temperature and respiration normal. When I visited him again at the expiration of eighteen hours, I found him with a rapid pulse, respiration beginning to be accelerated, and he had vomited a little blood. He presented the appearance of a patient who was suffering from an internal hæmorrhage. In his condition all interference for the purpose of finding out whether this was so or not was entirely out of the question. There was nothing to do but support him with cardiac stimulants in the hope that possibly he might be pulled through. He rallied a little, however, but again sank, and continued to sink, and died at the end of forty hours after the operation. A few hours after he died I was permitted to make an examination of the abdominal cavity. I found in his stomach about a pint of blood, which had doubtless come from some of the vessels along the line of the suture. The line of suture when the operation was completed was entirely dry, no hæmorrhage whatever being present, but the leakage since,

after full reaction had been established, had been sufficient in his already debilitated state to produce the fatal result.

The lesson which I have gained from this is not to be contented with any such methods of hæmostasis as have been advocated by others, the whipping en masse of the edges of these incisions, depending upon that for the purpose of preventing further hæmorrhage. Should I have an opportunity of performing the operation again I should certainly look for and encourage bleeding in all the vessels cut by the incision, and should securely ligate every one of them individually. Aside from that the operation was well borne, and should have been successful in the re-establishment of an opening for the flow of aliment from the stomach into the intestine. And I am satisfied from my experience in this case that it is a feasible operation, and that it certainly has a place among the justifiable operations of surgery.

Dr Pilcher also presented a specimen of congenital deformity of the lower extremity.

Executive business. Adjourned.

H. Beeckman Delatour.
Secretary.

THE BROOKLYN LARYNGO-OTOLOGICAL SOCIETY.

This Society was organized January 12, 1893. The object of the organization is the furtherance of the knowledge of the nose, throat and ear, both in their normal and pathological conditions.

Meetings are held regularly on the second Tuesday evening of each month (June, July and August excepted), at its rooms in the Brooklyn Throat Hospital building, Bedford Avenue, cor. South Third Street. The officers are : President, Dr. R. Jeffery; Vice-President, Dr. P. V. Burnett ; Secretary, Dr. N. L. North, Jr.; Treasurer, Dr. J. H. Droge. The Society is not limited to specialists, but invites all practitioners interested in the nose, throat and ear to join its ranks.

The first scientific meeting was very successfully held Tuesday evening, February 14, 1893.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the April meeting of this Society, Dr. C. F. Barber will read a paper on "The Care of the Inebriate."

All regular practitioners of medicine and medical students are invited to attend the meetings and participate in the discussion, and to remain as guests of the Association after the meeting.

PROGRESS IN MEDICINE.

SURGERY.

BY GEO. RYERSON FOWLER, M.D.,

Surgeon to St. Mary's Hospital, and to the Methodist Episcopal Hospital, Brooklyn.

EXPERIMENTAL CONTRIBUTIONS UPON THE ACTION OF THE SPHINCTER APPARATUS OF THE URETHRA AND UPON IRRIGATION OF THE BLADDER WITHOUT CATHETER.

H. Felski (Pester Med. chir. Presse. 1891, No. 24, p. 561).

F. conveyed to the membranous urethra by means of the endoscope a very small portion of methyl-violet, and then injected ten cubic centimetres of a lukewarm fluid into the urethra by means of a common syringe. After some time the fluid reappeared uncolored. By a subsequent endoscopic examination he found the powder nearer to the bladder than before. He therefore concludes that injections with the common syringe do not pass into the bladder, nor even into the posterior portion of the urethra. Yet it is possible in case of posterior urethritis, that the secretion may be forced backward into the ejaculatory ducts or into the bladder.

Irrigation of the bladder without catheter is recommended by F. in case of the patient's aversion to the latter, but it must be accomplished by an expert, and requires great caution and knowledge on account of the difficulty of diagnosis concerning the condition of the bladder. The reflex contraction of the sphincter may be overcome—sometimes, however, such a painful and convulsive contraction occurs that introduction of the catheter becomes indispensable. The method without catheter is contraindicated in cases where very many irrigations are to be made in one session, in case of urethral hæmorrhages, of acute urethritis, and of insufficiency of the bladder.

A NEW OSTEOPLASTIC PROCEDURE IN CASE OF SPINA BIFIDA.

A. A. Bobroff (Moscow) (Centralblatt für Chirurgie, 1892, No. 22).

Because of inefficiency of former methods of treatment of spina bifida those methods only are now sought which aim at excision of the sac and closure of the defect in the vertebral column. As

plastic operations designed to close bony defects by means of soft parts are followed by only temporary success, Dollinger, in 1885 proposed an osteoplastic procedure and applied it with success in a case of spina bifida of the sacro-lumbar variety. By means of strong scissors portions of the rudimentary vertebral arches of the fourth and fifth lumbar vertebra were crowded closely at their place of insertion, pushed from both sides to the median line and united there by means of bone sutures.

Senenko accomplished a similar operation in case of a sacral meningo-myelocele. Along the lateral edges of the defect two incisions were made reaching to the bone. Two pieces of bone, two centimeters broad, were chiselled off, consisting of rudimentary sacral vertebræ and of the posterior sacral tuberosity; he preserved, however, the connection with surrounding tissues above and below by means of the soft parts. The bridges of bone thus obtained were crowded against the median line, and sutured by means of the bone sutures. After four months the posterior portion of the sacrum presented a continuous bony surface. In October 1891, B. carried out an improved method in operating upon a boy of eight years for spina bifida, in the sacral region. The sac had an oval shape, the diameter being five centimetres at the point of insertion, and seven centimeters in height. On pressure the sac emptied one-half its contents, the boy at once complaining of pain and attacks of dizziness. Complete incontinence of urine and fæces had existed. B's osteoplastic procedure is as follows: By two semilunar incisions a portion of the integumentary cover was removed; several nerve cords of the cauda equina and the lower end of the spinal cord, which had become adherent to the inner surface of the sac, were cut off one centimetre from the inner surface and sunk into the vertebral canal. The opening leading into the vertebral canal was found at the level of the third sacral vertebra; it was so large that it allowed the index finger to pass easily. The membrane covering the inner surface of the sac being now extirpated B. made an incision from the upper angle of the skin wound, along the edge of the crest of the ilium, dissected the gluteus maximus for some distance from the bone, pushed it outwards and chiselled from the iliac crest a piece of bone, three centimetres long, two broad and a little less than one thick, so that the lamella, covered with peritoneum where a portion of the erector spinæ has its origin, remains in connection with tissues which serve to nourish it. This flap of bone was turned down over the defect, the surface covered with peritoneum looking towards the vertebral canal, the spongy surface of the bone to the outside. In order to obtain a reliable con-

solidation B. freshened the edge of the defect corresponding to the flap of bone, fitted the latter carefully into the defect and fastened it by two sutures. The skin wound was sutured, except at the lower angle where a drainage tube was established. The patient was kept at first in an abdominal position in a bed, the foot of which was somewhat raised. Complete consolidation of the transplanted piece of bone with the sacral bone was found to have taken place at the end of two months. During the following three months the faradic, followed subsequently by the galvanic current was applied for the purpose of exciting the sphincters; after three months the sphincter ani had improved considerably, the spincter vesicæ remaining about the same. B. claims for his procedure the advantage in comparison with Dollinger's and Senenko's methods, that a flap of bone of any size may be chiselled from the crista ilii, the size regulated in such a way as to cover the defect. Such a flap will always be sufficiently well nourished as it remains connected with the erector spinæ muscle. This method is applicable to cases of spina bifida sacralis et sacro-lumbalis; the most common forms. In case of defect in the upper lumbar or dorsal vertebrae B. suggests to use in an analogous way one or two of the adjoining ribs for the formation of a flap of bone. B. experimented with this procedure in the cadaver, and found it to be possible to use for that purpose the external lamella of the rib. This is to be taken in a sufficient length immediately at the lateral edge of the vertebral muscles and the longissimus dorsi, the flap of bone, however, must remain connected with the soft parts that lie toward the median line.

To draw flaps over the muscles filling the depression between the spinous processes and the ribs would be rather difficult, and only possible by excessively stretching the flap, or after dividing the muscles in a transverse direction. B. therefore recommends to incise longitudinally the whole thickness of these muscles near the transverse processes of the vertebræ, and to lead the flap of bone through this split; with this aid it can be placed upon the defect without undue tension.

INTERNATIONAL MEDICAL CONGRESS.

The Eleventh Congress meets at Rome, Italy, September 24th-1893; and Dr. Jacobi, 110 West 34th St., N. Y., offers his services to any physician who desires to send an application to be enrolled.

DISEASES OF THE SKIN.

BY SAMUEL SHERWELL, M.D.,

Clinical Professor of Dermatology, Long Island College Hospital; Attending Physician, Brooklyn Hospital; Surgeon to Skin and Throat Department, Brooklyn Eye and Ear Hospital.

INTERNATIONAL DERMATOLOGICAL CONGRESS, 1892.

Probably the most important event in the dermatological world for 1892 was the meeting of the above-mentioned congress in Vienna, Sept. 5–10. A good résumé of the work then done will be found in the Monatsheft f. Pract. Dermatologie, Nos. 7, 8, 9, Vol. xv., 1892. in which report the subjects discussed are summarized with justice, and at relative lengths proportioned to their importance and merits. Dr. Carl Berliner, of Aix-la-Chapelle, is the author of the report.

About 300 members took part. There would seem to have been almost entire absence of American dermatologues at the meeting; the French and the English, on the contrary, were well represented. Prof. Kaposi, the president, delivered the opening address of welcome, Prof. Hardy, of Paris, as honorary president, the more formal one, introductory to the dermatological work, entitled "Coup d'œil sur l'état actuel de la Dermatologie," the consideration of the subject Leprosy taking up the remainder of the first day, that of Syphilis the larger portion of the second. During the rest of the meeting many instructive papers were read, and full discussion followed, of which, as aforesaid, Dr. Berliner gives succinct and admirable briefs. Among the more important were those on the Lymphatic Diseases of the Skin, by Dr. Paltauf, Vienna, Hallopeau, Paris, and Dr. Riehl, Vienna; on Mycosis Fungoides, by Hallopeau, Paris, and Dr. Breda, Padua; a monograph on the Anatomy and Development of the Pigmentary Layer of the Epidermis, by Dr. Jarisch, Innsbruck; Psorospermosis, by Prof. Boeck, Christiania. In this the discussion was participated in by a number of the most distinguished dermatologues present, as Profs. Neisser, Torok, Ehrmann, Janovsky, Schwimmer, etc., etc. The general conclusion was that these supposed spores were after all nothing but epithelial cells that had suffered a change by keratosis. (It is interesting to note in this connection that American dermatologues, as Piffard and others, had already demonstrated this.)

Gonorrhœal diseases, their etiology, pathology, treatment, etc., were considered at great length in other papers by Neisser, Lang, Herzfeld, Wertheim, and others.

Malcolm Morris, of London, gave interesting papers on Lupus Erythematosus, and presented models and illustrations of cases of so-called Dermatitis Repens and Adenoma Sebaceum. Others who had papers on Lupus Erythematosus were Drs. Veiel and Dubreuilh, of Bordeaux. Others on Psoriasis Metastasic and Atypical were given by Dr. Gaucher, Paris, and Rosenthal, Berlin, and provoked a very lively discussion. Pemphigus Foliaceus was treated of by Prof. Petrini, of Bucharest, and Pemphigus Puerperalis, and Pemphigus Neonatorum by Staub, of Posen.

One very interesting occasion during the meeting was the celebration of Prof. Ferd. Hebra's birthday on the 7th of September, the members going in a body to the University and witnessing Prof. Hardy, of Paris, crown the bust of the illustrious professor with laurel. This was almost the last act of the congress, it being adjourned to meet in London in 1895, Jonathan Hutchinson being elected by acclamation as president for that meeting.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

This the sixteenth annual meeting held at the Pequot House, New London, Sept. 13-14, 1892, was well attended, and, while not perhaps so full of general interest as on some past occasions, a number of excellent papers were read, and the attendance was relatively good. The presentation of the subject of "Alopecia Areata," its etiology, treatment, possibility of contagion, etc., etc., was perhaps the most noteworthy subject that came up. A full discussion, in which all the members present took part, is well reported in the journal of Cutaneous and Genito-Urinary Diseases (the number for December, 1892), which also in that and preceding number gives a good résumé of all the work done. Other forms of alopecia were considered in another article subsequently, so that the subject of loss of hair from different causes took up a quite appreciable part of the time of the association.

Other papers as "Can Leprosy be Cured?" Dr. G. H. Fox; "Mutiple Benign Cystic Epithelioma of Skin," Dr. Fordyce; "The Use of Iodine, Carbolic Acid and Chloral in Dermatology," Dr. Cutler; "Sarcoma Cutis," Dr. Hartzell; "Cases of Favus Contagion from the Lower Animals." Dr. Sherwell; "A Note on the Histology of the Molluscum Contagiosum," Dr. Piffard, etc., etc., were among those that excited most interest.

DERMATOLOGICAL THERAPEUTICS.

There seems to be a lull in the appearance of new remedies, especially of the synthetic order, applicable to dermatology.

Fuchsin and its congeners, methyl violet, etc., used hypodermatically and otherwise, are well spoken of by Fox, Lewis, Elliott and others in the treatment of lupus, carcinoma and Paget's disease. We must confess to having some little scepticism as to their absolute curative virtue in these diseases, though improvement has unquestionably taken place under the observation of the above-named gentlemen. Resorcin and salicylic acid still keep their reputation and increase it. They seem to be the most reliable of the above-mentioned class.

OTOLOGY.

BY J. E. SHEPPARD, M.D.,

Assistant Surgeon, Aural Department, Brooklyn Eye and Ear Hospi al.

Before the last meeting of the American Otological Society two papers, which supplement each other very well, were read, and have appeared in the Transactions, Vol. V., Part 2, and from which the following is abstracted:

I.—MIDDLE EAR OPERATIONS, BY DR. C. J. BLAKE, OF BOSTON.

It is a notable fact that the first persistent efforts at surgical treatment of the middle ear, including myringotomy and myringectomy, as well as trepanation of the mastoid, were made with the intention of improving the hearing, and not for the removal of diseased tissue consequent upon a suppurative process. Later for this latter condition, various operations were, and are, performed, viz., division of obstructive folds and adhesions in the middle ear, the use of the curette upon the bony walls of the tympanic cavity, the removal of the two larger ossicles, when diseased, or even when healthy if they prove obstructive, and, to gain better access to the attic, the removal of the upper and inner end of the osseous canal. Where in chronic suppuration the ossicles are to be interfered with, it is the removal of the malleus, incus, or both, that is generally important. Experience in the surgical treatment of chronic suppurative disease of the middle ear, and the consequent appreciation of the extent to which the structures in that cavity may be safely interfered with, has gradually led to the consideration of the surgical invasion of this cavity in chronic non-suppura-

tive disease, with a view to effecting an improvement in the hearing.

The surgery of the middle ear in this respect has, therefore, swung around a circle, but as all advance is in the form of a spiral, the objective point is no longer the membrana tympani, but, instead, the stapes, the termination—further end—of the sound-transmitting apparatus. Various procedures for the mobilization of the stapes have been proposed and practiced, especially in cases of immobility of that ossicle as a consequence of suppurative disease of the middle ear. These have ranged from mechanical and auto-massage to the division of adhesions, tenotomy of the stapedius muscle, and "circumcision" of the stapes. But the question of removal of the stapes itself has, until recently, been left out of serious consideration. "My own experience includes operations in the following sequence:—(1) Excision of the posterior segment of the membrana tympani, allowing the sound-waves to fall directly upon the stapes. (2) Formation of a flap from the posterior segment of the membrana tympani, and attachment of it to the descending process of the incus for the purpose of transmitting the vibrations of the membrane directly to that bone. (3) Division of the incudo-stapedal articulation through a small triangular opening in the membrane. (4) Attachment of a flap from the posterior segment of the membrana tympani to the head of the stapes, the incus being either wanting or removed. (5) Division of the incudo-stapedal articulation, in cases of existing perforation of the membrana tympani, division of the stapedius muscle, and of mucous folds or adhesions. (6) Removal of the stapes itself."

The expressed opinions of other writers on this subject, and the results of personal experience thus far lead B. to the conclusion that the mobilization of the stapes, including stapedo-tenotomy, and division of adhesions, while useful in cases resulting from chronic suppuration, is of comparatively little value in chronic middle ear catarrh, therefore of the surgical operations proposed for the improvement of hearing and the relief of tinnitus, in severe cases of chronic non-suppurative diseases of the middle ear, the disarticulation and removal of the stapes, although it seems the more heroic procedure, is one likely to be of more lasting benefit than the removal of the incus, or malleus and incus, or than merely tentative efforts at mobilization. "Indeed, I should not, in the light of present experience, hesitate to recommend stapedectomy in cases where I had previously proposed dividing the incudo-stapedal articulation, and division of the tendon of the stapedius muscle."

II.—REMARKABLE IMPROVEMENT IN HEARING BY REMOVAL OF THE STAPES, BY DR. F. L. JACK, OF BOSTON.

J., after an operation for chronic middle ear suppuration, in which the stapes, partially carious, was removed, found not only no bad results, but great improvement of hearing. This led him to try in chronic catarrh, instead of removing the membrane, malleus, and incus, the effect of removing the stapes alone through a small opening in the membrana tympani. He reports in detail sixteen cases operated upon in this way, thus putting upon a firm foundation this hitherto untried operation for chronic aural catarrh. J. claims that the simple removal of the stapes is much better in its results, as shown by the operations already performed, than the removal of the larger ossicles, and is to be much preferred on the ground of conservative surgery. "It produces greater improvement in the hearing and, according to my experience up to the present, there has been no inflammatory reaction whatever, or any other bad results." The operation consists in first making a cut, shaped like an inverted V in the drum membrane, just over the incudo-stapedal joint, and to allow the part so loosened to fall outward; next divide thoroughly the stapedius muscle from the head of the stapes, disarticulate the stapes and incus, and, with a small hook introduced behind the head of the stapes, with gentle traction remove it. The bone usually comes away with some suction. Slowing of the pulse was noticed in two or three cases upon touching the stapes. The patients usually remained quietly in bed two or three days, keeping the ear plugged with cotton undisturbed. Experience has shown that in the cases where the ear has suppurated, the operation is rendered much more difficult by the conditions thus produced, than in cases of so-called chronic catarrh. The results obtained from these sixteen operations furnish good ground for hopefulness as to the future possibilities of the operation. That the operation is apparently free from danger is shown by the fact that in two of the reported cases there was free suppuration when operated upon, and absolutely no bad results, one ear healing entirely in four or five days, and the other greatly improved. In three cases the patients complained of vertigo after the operation which, however, entirely disappeared within four or five days. In general, the cases showed little tendency toward inflammatory reaction, and the ears were, after a few days, entirely dry. The effect of the operation on the hearing, as tested by the watch, König's rods, and the tuning-fork, was variable, but when tested by the human voice showed in nearly every case a very

marked improvement. "If persons who have heretofore heard only with difficulty can be made to hear with ease, by treatment unattended with danger, the operation as above described, which has accomplished this result, is certainly worth consideration."

[A recent unpleasant experience of two of my patients after removal of the stapes, in being confined to bed from vertigo for ten days (one case, two weeks), makes it appear that this symptom is, at least in a proportion of cases, a more prominent one than the above papers lead us to believe. As to hearing, the results bear out the favorable outlook indulged in by Dr. Jack.—J. E. S.]

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

TEXT-BOOK OF OPHTHALMOLOGY. By Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized translation from the second enlarged and improved German edition, by A. Duane, M.D. New York: D. Appleton & Co.; 1892. Pp. 788; Sold only by subscription; Price, $5.00.

This is an admirable book admirably translated. The author was for several years the first assistant of the illustrious Arlt of Vienna, to whose school he belongs, as he states in his preface to the original. This work, therefore, represents Arlt's methods and to a degree the substance of his teachings, to which the author has added the results of his own original work and large experience. To the practitioner who desires a safe guide or book of reference it cannot be too highly commended. Beginning with the objective and functional methods of examination he then proceeds to discuss the diseases of the eyeball in topographical order, commencing with the conjunctiva followed by the affections of the eyelids, lachrymal apparatus, muscles and orbit. The anomalies of refraction and accommodation are thus considered and the book ends with chapters on operations, with a useful appendix by the translator on the instruments used in ophthalmology. To the whole is added a good index of 38 pages. There are 178 illustrations in the text, but no colored ophthalmoscopic pictures are given.

The description of the diseases of each tissue or organ is preceded by an account of its anatomy and physiology, and all pathological processes receive full consideration.

Attention may be invited to the very full chapters on the iris and ciliary body, a careful perusal of which should make impossible the serious error of confounding conjunctivitis and iritis with the result of treating the latter with nitrate of silver or other irritant. Fuchs considers increase of hardness of

the eyeball the essence of glaucoma, a condition in most cases easily recognizable by the touch of the finger. Many mistakes involving loss of eyesight might be avoided if this simple fact were always borne in mind. A short quotation may here be made: "In eyes which have a tendency to glaucoma atropine may actually inflict great injury by determining an attack of acute glaucoma." Theories of its causation are discussed, but only the slightest reference is made to the old one of its arthritic origin which is now attracting renewed attention.

The author lays emphasis on the fact that the converging eye in squint is, as a rule, born defective and says that this defect increases the longer the squint lasts. As "children in exceptional cases lose their squint about the age of puberty," the propriety of delaying operation is evident; babies should not be operated on. As he truly says "the result obtained by the operation is, as a rule, simply cosmetic," there is no need for hurry, and the writer of this notice would therefore lay down as a positive rule this proposition: *No operation in convergent squint until after thorough and continued trial of atropine and the constant wearing of fully correcting glasses have been found to be without effect.* Cutting or pretending to cut eye-muscles is vastly easier and perhaps much more profitable financially than careful testing and non-operative treatment.

In conclusion, the translator is to be praised for the excellence of his work. His additions are always judicious and useful. The publishers have given us a very handsome volume, but unfortunately the reflections from its highly calendared paper tire and irritate the eyes of the reader. Is "sold only by subscription" in the interest of the profession—or of the bookmaker?

J. S. Prout.

Principles of Theoretical Chemisty. By Ira Remsen, M.D., Ph.D. Fourth edition; pp. 322; Lea Brothers & Co., 1892.

The fourth edition of this excellent compend of the modern fundamental theories of chemistry is written for chemical rather than medical readers.

Those who wish to acquaint themselves with the principles of general and physical chemistry of to-day will find no better presentation of them in the English language than in this small work. This is shown by the fact that it has been translated into German and Italian.

Until very recent times, and for many years, the attention of chemists was centered upon coal tar and its derivatives. Physical chemistry and the fundamental principles underlying the science were for the time neglected. The tendency of the present day is towards a more intimate acquaintance with the laws of simpler inorganic matter. The author has presented the results of this kind of study and experiment in a clear and concise manner.

Handbook of Hygiene and Sanitary Science. By George Wilson, M.A., M.D., F.R.S. Seventh edition; pp. 751.

The fact that this small book has passed through seven editions is a proof that it has the merit of attracting readers. The author is well known and his long experience as a health officer eminently fits him to select the matter most needed by sanitary inspectors.

This edition has been brought up to date in most respects, and is in reality almost a new book; the greater part of it having been rewritten. The technical parts, as for example the chapters on water, air, and food analysis are not full enough to serve as a working guide for the laboratory, but this may possibly be excused on the ground that the book is intended only as a hand book for sanitary inspectors and health officers, and not for the practical chemist. The chapters on communicable diseases, vital statistics, and the disposal of sewage are exceptionally good. The last chapter of 112 pages is taken up with the sanitary laws of Great Britain, and duties of health officers acting under those laws, and is of little interest to American readers.

SEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MAINE; 1892. Pp. 390.

This report is largely taken up with a voluminous and exhaustive article upon "School Hygiene and School-Houses," by the secretary of the Board, and an article by Prof. Woodbridge, of the Massachusetts Institute of Technology, on "Plans for Heating and Ventilating School-Houses." These two articles form a treatise on the subject occupying 300 pages of the Report. The article by Secretary Young is an excellent resumé of what is known on the subject of school hygiene and the diseases produced by faulty methods in the education of children, and in the construction of school-houses. The author has collected the observations of those who have from time to time investigated the subject, and written a really valuable article. The article by Prof. Woodbridge is confined principally to mechanical devices for warming and ventilating school buildings. These articles are too good to be locked up in a State Board of Health Report, which at best has a limited circulation.

The same may be said of much other good work done by those connected with the health boards of this country. One sometimes is led to doubt the efficacy of much of the work done, and published in annual reports which are circulated among the boards themselves and find their way into the dusty corners of libraries.

The public at large seldom know anything at all of the contents of such reports. The State Board of Health of Maine is more alive to its duty as a public educator than most others. It does not stop at an annual report, but publishes and circulates throughout the State thousands of copies of circulars of information addressed to the people.

It is, in this very important duty of health boards, far better than the New York State Board and many others. Why should information in sanitary matters be so carefully kept from the public, as is done by some of our local and State boards? We can but think it is often to avoid criticisms for inefficiency and incompetency. Once a year a limited number of a grossly padded volume is gotten out to make the few who see it think a large amount of work is being done. How much better it would be to circulate bulletins or a periodical among the people, as is done in a number of the States. Is it not better to hear what the health authorities have to suggest as to checking an epidemic while it is doing its deadly work, than to have placed in our public library a report upon the subject six months after the epidemic is over? We must commend this report as one primarily intended to educate the public in a very important sanitary matter.

E. H. BARTLEY.

International Clinics. Vol. IV. Jan. 1892. J. B. Lippincott & Co.

This number begins with a portrait and eulogium of the late Dr. C. T. Parkes, of Chicago. The regular articles are forty-three in number and occupy 370 pages; seven are by English writers and two by Canadians. The general type of this interesting series is well kept up, and the various specialties find recognition. The leading article is by Oliver, of Durham, and considers the "Various Forms of Purpura." It is illustrated by colored plates of intestinal, cutaneous, and cerebral hæmorrhage. Another liberally illustrated article is that by De Forest Willard, of Philadelphia, on osteotomy and manual straightening of crooked legs. One of Dr. Skene's always admirable lectures treats of incomplete miscarriage, and also the differentiation of malignant disease from cervical laceration with erosion. There are many interesting neurological papers. Van Harlingen discourses briefly but well on the leprosy question—except that he might have recognized the services of our countryman, Morrow—and includes one of the useful maps of the distribution of that disease.

Wm. Browning.

A Text-Book of Practical Therapeutics. By H. A. Hare, M.D., B. Sc., etc. Third edition. Enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1892. Pp. 696. Price, $3.75.

The popularity of this work is evidenced by the fact that in two years it has run through three editions. In this edition the use of the following drugs is described: Salophen, guaiacol, diuretin, europhen, thiol, phenocoll hydrochloride, piperazine, dermatol pentol, terpine hydrate, terpinol and the salts of strontium. Additional information is given as to salol, phenacetine and menthol. In this edition we also find as new matter a list of drugs arranged as far as possible according to their physiological action, and a list of definitions of the terms used to designate classes of drugs. The volume is a most valuable contribution to the armamentarium of the practical physician, and cannot but be of great assistance to him in the hurry of his professional life when he desires to find a remedy especially applicable to a case in question, and has but limited time in which to look up the subject.

The Students' Quiz Series. Philadelphia: Lea Brothers & Co.
Physiology. By F. A. Manning. Pp. 213. Price, $1.00.
Diseases of Children. C. A. Rhodes. Pp. 159. Price, $1.00.
Anatomy. F. J. Brockway and A. O'Malley. Pp. 376. Price, $1.75.

This series now covers nearly every branch of medicine, and those who desire to review the salient points of medicine can do so by means of these books in the shortest possible time. They do not, of course, take the place of the systematic treatises, nor, indeed, are they designed for that purpose. The form of question and answer crystallizes the information they contain, and while the size of the volumes is increased thereby, still the advantages from such a plan more than counterbalance this objection.

THE AMERICAN TEXT-BOOK OF SURGERY FOR PRACTITIONERS AND STUDENTS. By Charles H. Burnett, M.D., Phineas S. Conner, M.D., Frederic S. Dennis, M.D., William W. Keen, M.D., Charles B. Nancrede, M.D., Roswell Park, M.D., Lewis S. Pilcher, M.D., Nicholas Senn, M.D., Francis J. Shephard, M.D., L. A. Stimson. M.D., William Thomson, M.D., J. Collins Warren, M.D., and J. William White, M. D. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., Ph. D. 8vo. Pp. 1205. Philadelphia: W. B. Saunders, 1892.

This book is intended to serve as a text-book for American students. The need of such a book has been felt for some time, as is tersely expressed in the brief preface. So great have been the advances during the past few years that no text-book in the English language was available for the purposes of the student and practitioners until the appearance of the book before us.

The book, however, marks an epoch in book-making in that, although it is the work of a number of authors, yet each is supposed to submit his work, not to the responsible editors alone, but to each of his confreres. In this way the work becomes in truth a conjoint work and represents a consensus of the opinion of the authors. At the same time it is expressly stated that each individual author is free from absolute responsibility for any particular statement. We question very much the wisdom of such a course, for members of the profession, as a rule, will prefer to look upon a single individual as responsible for an expressed opinion upon a particular subject, rather than a group of authorities, or a book as a whole, or a publishing house. It would certainly be an anomalous state of affairs if, in a medico-legal controversy, this book should be quoted as an authority, and the point, which perhaps was one involving the surgery of the spine, referred to as the opinion of, say the surgeon who it afterward transpired was the author of the section upon abdominal or pelvic surgery. Still more unfair, it appears to us, would it be if an important point were to be raised and the question of its authorship were to be called into account, and it was found that all had banded themselves together to support the view of one of their number, expressed under circumstances where he alone is really responsible for the utterance.

While this plan might be allowable in political and sociological literature, there are certainly drawbacks to it in a work of this kind. Scientific men and those who keep abreast of the literature of the day are much more apt to quote an author than a book or journal. It is rare for one to hear it said that such and such a medical journal says so and so; on the other hand one remembers a point, and the impression it makes upon one's mind is often in direct proportion to the reputation of the person who makes it, by associating it with the name and position of the author. Therefore signed articles in works of this kind are to be greatly preferred. This self-assertion of irresponsibility is unworthy anything "American," and particularly the group of active and brilliant men, whose special studies and opportunities have made each beyond peradventure of doubt an unquestioned authority in the particular subject to which he is assigned. We venture the prediction that in future editions of this book the motives, whatever they may have been, in adopting this novel plan of anonymous communications and "stand-by-each-other" sentiment, will not be considered of sufficient weight to permit of its

continuance, if for no other reason than that it unfairly robs the reader, who is entitled to at least the consideration accorded to those who design to get all they pay for, of the satisfaction derived from weighing in the balance the identity and reputation of the author on the one hand and the opinion expressed upon the other, and fixing his own estimate of authority.

With the exception of the matter criticised there is really very little about the work to condemn and a great deal to commend. As a whole it is a great addition to American surgical literature. In the face of the fact that great difficulty is usually experienced by editors of such works in preserving uniformity of style, when the material is derived from so many different sources, in this respect unusual success has been attained. There is an immense amount of valuable material compressed between its covers, and for this reason its value is greatly enhanced to the practitioner, if not to the student.

The very character of the opening chapter of the book, that upon surgical bacteriology, stamps it at once as progressive. One is likewise agreeably surprised to find brief directions for storing and identifying the different varieties of micro-organisms of interest to the surgeon. This is a very decided innovation, and it is to be hoped that the precedent thus established will be followed in the future by writers of formal systems of surgery. Americans were among the first to recognize the great importance of bacteriology to surgery and it is fitting that a work as distinctively American, in its authorship at least, should place this important subject in a prominent position, as well as present it in a manner both attractive and instructive.

The process of inflammation is carefully studied, notwithstanding the assertion by the authors that they do not consider the inflammatory process as an essential factor in the healing of aseptic wounds, yet it will be a very difficult matter to determine where the reparative process, as such, pure and simple, leaves off and that of inflammation begins. The chapter upon wounds and their treatment is one of the most complete in the book.

It is very much to be regretted that more care was not exercised in the matter of the illustrations. These range all the way from beautiful chromo-lithographs to execrable photo-etchings. The balance of the make-up of the book is excellent. GEORGE RYERSON FOWLER.

MANUAL OF PRACTICAL MEDICAL AND PHYSIOLOGICAL CHEMISTRY. By C. E. Pellew. New York: D. Appleton & Co., 1892. Pp. 314.

This book is one that has been very much needed in medical colleges, and for want of it many students have gone out into the practice of medicine very insufficiently prepared in one of the most essential branches of their profession. The absence of a good text-book has up to the present time been an ade uate excuse for this, but such excuse will be valid no longer. The book before us treats not only of such subjects as the food-stuffs, and their products of assimilation and also of the various fluids and solid tissues of the body, but the author has, wherever possible, paid particular attention to the latest clinical tests, which treatment adds very much to the value of the book for the practical physician. Twenty-eight figures and eight plates assist in making the text more intelligible to the reader.

ANATOMY OF THE PERITONÆUM. By Franklin Dexter. New York: D. Appleton & Co., 1892. Pp. 84.

In order to thoroughly understand the anatomy of the peritonæum, the

author believes that it should be followed throughout its development, and in order that this may be done, he has written this brochure. Such a work as this could only be of value when illustrated, and this no one appreciates better than the author who has prepared thirty-eight illustrations, with which to elucidate his subject. One who studies the peritonæum with the aid of Dr. Dexter's book will, we are sure, gain such a knowledge of it as he can get so easily in no other way; and in these days when there is so much to be studied that author deserves especial thanks who presents the topic of which he treats in a concise as well as complete manner.

ASHEVILLE, OR THE SKY-LAND. By Mrs. H. A. Sawyer. St. Louis: Nixon-Jones Printing Co., 1892. Pp. 101. Price 75 cts.

A guidebook to Asheville, with some pretty views of its scenery, together with its rainfall, humidity, etc., etc.

MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By H. C. Chapman. Philadelphia: W. B. Saunders, 1892. Pp. 237. Price, $1.25.

This manual embraces the course of lectures on Medical Jurisprudence delivered by the author at Jefferson Medical College during the last session. The demand for a small text-book on this subject is greater to-day than ever. Until the past few years medical students have not been required to pay as much attention to the subject of Medical Jurisprudence as at the present time, and, indeed the text-books have been so voluminous that they were ill-adapted to college use, except as books of reference. The author has succeeded in incorporating in a very compact space the essentials of medical jurisprudence and toxicology.

THE CHINESE: THEIR PRESENT AND FUTURE; MEDICAL, POLITICAL AND SOCIAL. By Robert Coltman, Jr., M.D., Surgeon in charge of the Presbyterian Hospital and Dispensary at Teng Chow Fu. Illustrated with fifteen photo-engravings of persons, places and objects characteristic of China. In one handsome royal octavo volume, 220 pages. Extra cloth, price, $1.75 net. Philadelphia: The F. A. Davis Co., publishers, 1231 Filbert Street.

A very readable book on the customs and peculiarities of the Chinese, written by an observing physician, in which their diseases are incidentally described. Among these are dyspepsia, diseases of the eye, especially conjunctivitis, entropium, cataract, keratitis, pannus, granular lids and trichiasis. Ulcer of the cornea with perforation and staphyloma are also very frequent. Smallpox, the author states, is the most common disease of China, nearly every one having it at some period of his life, usually in childhood. In speaking of obstetrics among the Chinese, Dr. Coltman says that there are no skilled obstetricians. Male physicians would lose their reputation if they attended a woman in confinement, and so the obstetrician's work is left entirely to old women, who act as midwives, receiving the child at birth and severing the cord. The infant is then wrapped in a cloth, or roll of cotton, and remains unwashed for a week.

Should a shoulder presentation or impaction of the head occur, turning or instrumental assistance is not forthcoming, and the patient always dies, worn out with the infant unborn. According to etiquette, a woman must not leave her own premises within a month after confinement.

DISEASES OF THE SKIN. A Manual for Students and Practitioners. By C. C. Ransom, M.D., Assistant Dermatologist, Vanderbilt Clinic, N. Y. Edited by B. B. Gallandet, M.D. Published by Lea Bros. & Co., Philadelphia. Price $1.

This little book with its modest preface and its method, queries and answers thereto, strikes one at first as having a little too much of a dermatological kindergarten element in it; but, on closer study, one cannot withhold a measured amount of praise, at the terseness and conciseness of the answers to the set questions propounded. We believe there are better books even for the student, of not much greater relative size; still, this will, doubtless, take its proposed place in the regards of the anxious student who is trying to coach up for a degree.

We can readily believe that many a "ransomed sinner" can get "home" in the final examination by a few evenings' study a d memorization of this Manual, though it would seem a misfortune to us if this style of book should multiply.

The illustrated wood cuts are mostly bad and quite unnecessary, consisting as they do in greatest number of representations of dermatological freaks —exceptions may perhaps be made of two, a very good plates illustrating the anatomy of the skin (after Heitzmann) and one showing dermatitis from poison ivy.

MISCELLANEOUS.

SEVENTH EXAMINATION OF STATE BOARD OF MEDICAL EXAMINERS.

The following were the questions asked at the last examination, which occurred January 24, 1893.

Answer any 10 of the questions in each paper but no more. *Check the number* (√) *of each one of the questions you have answered.*

Anatomy.—1. Describe the atlas. 2. Describe the occipital bone and its articulations. 3. Describe the tibia and give the principal muscular attachments. 4. Name the extensor muscles of the leg. 5. Give the course of the posterior tibial artery. 6. Of what artery is the axillary artery the continuation? 7. Describe the alimentary canal. 8. Where is the antrum maxillæ (Highmore)? 9. Describe the bronchial tubes. 10. Name the various

parts of the globe of the eye, beginning anteriorly. 11. Describe Poupart's ligament. 12. Give the surgical anatomy of the vermiform appendix. 13. Describe and locate the fallopian tubes. 14. Which of the cranial nerves has the widest distribution? 15. Describe the origin of the ninth pair of cerebral nerves (lingual).

Physiology and Hygiene.—1. What influence has the nervous system on the process of secretion? 2. Name the refracting media of the eye and the effect that each has on the rays of light. 3. What effect on hearing has the perforation of the membrana tympani and how is it explained? 4. What is the location of the centre for articulate speech? 5. What muscles are brought into action during respiration? 6. Describe the mechanism of muscular contraction. 7. How is the sensation of pain produced? 8. Describe briefly the processes of the phenomenon of reproduction. 9. What kinds of food would you recommend in cases of obesity? 10. What should be the diet of a child over two years of age? 11. What hygienic precautions should be observed by a pregnant woman? 12. What habits of school children tend to produce myopia? 13. What is the most sanitary way of disposing of city garbage? 14. What should be the proper temperature for a living-room in winter? 15. Mention the advantages which the public would realize from a perfected system of public roads.

Chemistry.—1. What is an acid? 2. Describe iodine. 3. Mention the chief properties of nitrogen. 4. What metal is liquid at ordinary temperature? 5. Name three different conditions in which pure carbon exists in nature. 6. What do you understand by ac anhydrous substance? 7. Give the chemical formulas of nitri- acid, sulphuric acid and hydrochloric acid. 8. Mention the properties of starch. 9. What is soap? 10. Mention a substance containing albumen (*a*) as a solid; (*b*) as a gas. 11. What is understood by isomerism? 12. Explain the difference between a galvanic and a faradic current. 13. What is the chemical cause of spontaneous combustion? 14. Describe a test for the presence of organic matter in water. 15. What is the specific gravity of normal urine?

Therapeutics, Practice and Materia Medica.—1. With what class of remedies should spasmodic croup be treated? Name suitable ones. 2. What is the physiologic action of phenacetine? 3. Describe the therapeutic uses of the preparations of borax. 4. How should scarlatina be treated? 5. Write a prescription containing some preparation of iron in a delectable form. 6. What preparations of copper are used in medicine and for what purposes? 7. What should be done to arrest and prevent nosebleed occurring in

the course of typhoid fever? 8. Name three officinal preparations of camphor. 9. For what are preparations of lead used in medicine and what are the principal ones? 10. Give the treatment of cerebro-spinal meningitis. 11. How does a toxic dose of gelsemium affect the system? 12. What are the therapeutic uses of the preparations of zinc? 13. What should be done for a patient during the passage of biliary calculi? 14. What is the vulgar name of physostigma? 15. What are medicinal uses of the preparations of bismuth?

Surgery.—1. What are the diagnostic points in fracture of the lower end of the radius? 2. What diseases attack the antrum maxillæ (Highmore)? 3. What is the treatment of the different varieties of anchylosis? 4. Where is the swelling and fluctuation most prominent in synovitis of the ankle joint? 5. Give a differential diagnosis between chancre and chancroid. 6. What is the treatment of rupture of the viscera? 7. Describe the ligation of the femoral artery in the upper part of its course. 8. With what conditions may aneurism be confounded? 9. What are the causes and symptoms of senile gangrene? 10. Describe the indications for performing intubation and give the method. 11. Give a general differential diagnosis between the benign and malignant tumors. 12. How do you distinguish between concussion and compression of the brain? 13. Name the most common varieties of fistulæ. 14. What are the advantages of chloroform as compared with ether, and in what classes of cases is it applicable for producing general anæsthesia? 15. Give the causes and treatment of iritis.

Obstetrics.—1. Name some of the diseases of pregnancy. 2. What are some of the possible terminations of a tubal pregnancy? 3. How can you distinguish false from true labor pains? 4. What is the treatment of placenta prævia? 5. Give a differential diagnosis between ovaritis and ovaralgia. 6. How would you attempt to resuscitate a still-born child? 7. What are the causes and import of hæmorrhage before labor? 8. To what form of morbus Brightii are pregnant women most liable? How would you diagnose and treat it? 9. How would you diagnose and manage a case of shoulder presentation? 10. Compare version with the employment of forceps and state when each is preferable. 11. Describe the malformations of the uterus. 12. How would you manage a case of rupture of the uterus during labor? 13. What are rectocele and cystocele and how do they complicate labor? 14. What are the causes of premature rupture of the membranes during labor and how does the accident influence labor? 15. Describe the course of a normal labor.

Pathology and Diagnosis.—1. What is uræmia and how does it occur? 2. What is the specific gravity of diabetic urine? 3. What condition of the blood is generally prominent in all forms of rheumatism? 4. Give the symptoms of cerebral embolism. 5. Where is the aortic regurgitant murmur most distinctly heard? 6. Describe the morbid changes in the mucous membrane in diphtheritis. 7. What are the characteristic lesions in typhoid fever? 8. What are the pathologic features of red hepatization of the lung? 9. What is fatty infiltration? 10. Give an outline of the general physical conditions of the lung in chronic interstitial pneumonitis. 11. What adventitious sounds are usually discovered by auscultation in catarrhal pneumonitis? 12. Give the physical signs of acute pleuritis. 13. How are the lymphatic glands involved in scarlatina? 14. Give some of the causes (pathologic) of paresis. 15. What is the pathology of aneurism?

TO MAKE STEEL INSTRUMENTS AS BRIGHT AS NEW.

Clean the instruments by rubbing with wood ashes and soft water. Then soak them in a weak solution of hydrochloric acid in water (about ten to fifteen drops to the fluid ounce) for a few hours, to remove the remaining rust and grease. Then wash them well in pure soft water. The next step is to place them in a bath consisting of a saturated solution of tin chloride. Let them remain ten to twenty-four hours, according to the coating desired. When removed from the bath, wash them clean in pure water and dry well. When the job is well done, the steel will appear as if nickel plated.—*Medical Brief.*

PAN-AMERICAN MEDICAL CONGRESS—SECTION OF HYGIENE, CLIMATOLOGY AND DEMOGRAPHY.

Persons proposing to present papers before this section are requested to communicate with either of the undersigned *immediately*, that titles of subjects may be properly classified for the programme of the proceedings of the Congress. The only limitation as to subject matter is that it shall have a sanitary, climatological, or statis-

tical bearing. Members of the section on State Medicine of the American Medical Association, the American Public Health Association, the American Climatological Association, the American Academy of Medicine and of State and Municipal Boards of Health are especially invited to contribute the results of their several experiences. The languages of the Congress being Spanish, Portuguese, French and English, papers may be presented in either, to be translated in the others, for which reason their text should be in the hands of the secretaries at the earliest possible date.

ALBERT L GIHON, M.D., President,
145 East 21st Street, New York City.

PEDRO JOSÉ SALICRUP, M.D., Secretary (Spanish),
129 East 17th Street, New York City.

PETER H. BRYCE, M.D., Secretary (English), Toronto, Canada.

THE SECTION ON THERAPEUTICS.

It is the earnest desire of the officers of the section on Therapeutics of the Pan-American Medical Congress that both specialists and general practitioners should contribute articles to its proceedings.

Gentlemen who desire to read papers at this meeting should notify the undersigned at once of their intention, and should send in by July 10th at the latest an abstract of their paper in order that it may be translated into the three official languages of the Congress and published in the programme. The importance of this section and the interesting papers which have already been promised give assurance of a very successful meeting.

H. A. HARE, President of Section, Philadelphia.

ADVISORY COUNCIL OF THE ANATOMICAL SECTION.

The following physicians have been appointed members of this Council:

Dr. F. Hall, University Chicago, Chicago; Dr. Charles F. Dolley, 3,707 Woodland avenue, Philadelphia; Dr. Edward K. Dunham, Carnegie Laboratory, New York; Dr. Elizabeth R. Bundy, Woman's Medical College, Philadelphia; Dr. William M. Gray, Army Medical Museum, Washington; Dr. H. C. Tinkham, University Vermont, Burlington, Vt.

Yours truly,

JOHN B. ROBERTS.

SECTION OF GENERAL MEDICINE.

This unique assemblage promises to be one of the most important events that has occurred in the history of medicine in the Americas. Its success is assured by the large number of valuable papers already promised. The Section on General Medicine, which is one of the most important that has been created, bids fair to be one of the most successful in the entire Congress; and already many valuable contributions are in process of preparation, and will be read at the meeting in September. It is hoped, with the hearty co-operation of all physicians living not only in North, but also in South and Central America, that the work in this Section will be memorable; and each physician living on this continent is requested to join this most important Section, and to prepare a contribution to be read before that body. It is especially requested that those intending to join this Section or to read papers shall at once send their names, with titles of papers, to the Secretary, Dr. Judson Daland, No. 319, South 18th Street, Philadelphia, so that they may be noted on the calendar and given their appropriate places.

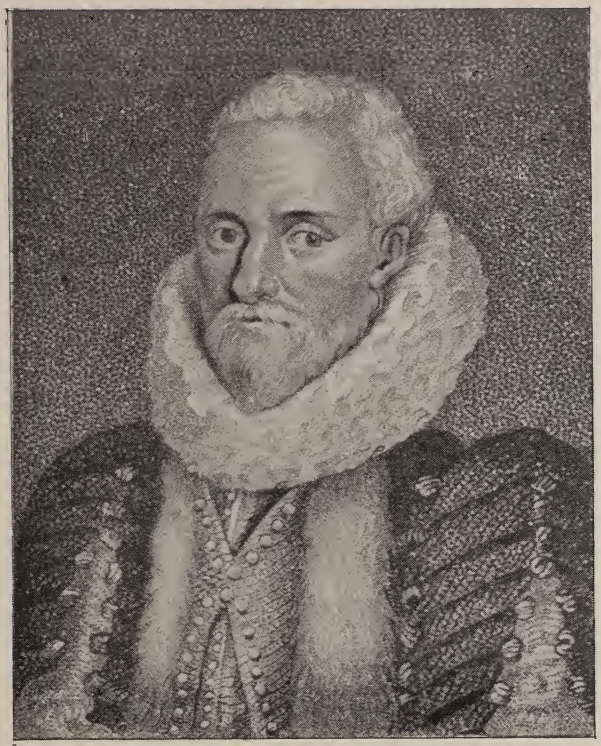
TRAKEYOTOMY DAN.

From the Brooklyn Eagle.

Trakey—yes! it are a cur'us name.
But stranger, mixed up with it are a story, just the same.
Yer see, Gibson were a doctor es hed a brain to think,
An' hed all the village practis afore he tuk to drink:
But he an' his financey hed a little fallin' out,
When she ups an' weds a feller es was nothin' but a lout.
The doctor kinder weakened and tuk ter drinkin' gin,
An the way that he kep' at it wus a most alfired sin.
He didn't kere fur nuthin', but would stag'er through the street,
A cussin' an' a hollerin' like I never seed the beat.
The parson preached about him es a warnin' to all men,
While Gibson, from the church door, hollered out a loud amen.
But like thet Rip Van Winkle, o' whom you've heered, no doubt,
He luved the little children that followed him about;
So when Trakey, playin' yonder, wus takin' awful sick,
He cum up home ter treat him, but I chased him double quick,
'Cause we'd sent for Dr. Sloper, a goodish sort o' man,
Ter physic lettle Trakey, who's Christyun name es Dan;
But somehow, the boy grew worser, an' Sloper sed he'd die,
So we tho't we'd send fur Gibson, an' let him have a try.

I cudn't quite believe it, when I seed him comin' in
So dignified and sober, like afore he tuk ter gin.
Trakey riz to greet him, but fell back white and weak,
Then try'd ter tell him somethin', but cudn't even speak.
His breath grew short and shorter and he struggled hard for air.
A-clutchin' at his windpipe, in a sort o' mute dispair.
Gibson seem'd most sorrerful, an' slowly shook his hed,
Mumbled somethin' 'bout dipthery, an' in an hour, bein' de'd;
But Sam, he sed, a-suddin' like, I'll tell ye what I'll do,
I'll perform a trakeyotomy, an' mebbe pull him thro'.
I didn't know exactly what he me'nt by sech a name,
But sed es how ter go ahead, an' I wu'd take the blame.
Well! he giv' him chloreform, 'til he lay like he wus de'd,
An' my heart kep' sinkin', sinkin', es if it were o' le'd;
But when I seed him cut'in', an' the blood a-flowin' free,
The room and all things in it seem'd swimmin' around me.
Bimeby I got my senses; thar was Trakey all correck,
Breathing, oh! so peacefully, thro' a tube within his neck.
Darn me! I cudn't help it, o' course it were fur j'y,
But I threw my arms 'round Gibson, an' hed a good ol' cry.
He watched my boy an' nussed him, 'til I 'swan I couldn't see
How any human bein' could stand as much as he;
For he never left the bedside 'til he tuk the tube away.
Es fur gin, he never teched it, 'tho' 'twere always in his way.
We all was hyfilutin, when Trakey left the bed,
'Cept Gibson! who was mopish, with a throbbin' in his he'd.
Pretty soon he tuk a retchin', followed by a heavy chill,
Jest the same es Trakey hed after he tuk so ill.
I ain't no shakes at docterin', but I cud plainly see
The doctor wus a sicker man than he let on to be;
So we sent again for Sloper, but this time he wus right.
Gibson hed dipthery, an' wud die afore the night.
Thet were Sloper's verdict. Gibson sed 'twere fur the best,
Es the grave ter any drunkard was but a place of rest;
Thet life ter him wus weary, full o' shame an' full o' sin,
An' 'twere better to die this way than loaded up with gin.
Along a-toward the evenin', his mind got out o' gear,
An' he raved about his marriageat the end in' o' the year;
Kep' a callin' fur his sweetheart, an' risin' out o' bed,
Sed he guessed he'd go an' see her, but keeled right over, de'd.
The parsen preached about him, es a noble ship astray,
But which seed the savin' beacon in time to find its way,
An' sed he was a hero—an' so says every man
As ever heered the story o' Trakeyotomy Dan.

—Dr. John C. MacEvitt.



PHILEMON HOLLAND, M.D.

This industrious writer was a descendant of an ancient family of the Hollands in Lancashire, England, and was the son of the Rev. John Holland, a pious divine, who, in Queen Mary's days, was obliged to go abroad an account of his religion.

Philemon was born at Chelmsford, in 1551; and after some initiatory instruction at the grammar school of that place, was sent to Trinity College, Cambridge, where he was pupil to Dr. Hampton, and afterwards to Dr. Whitgift.

He was admitted fellow of his college, and took the degree of M. A., in which he was incorporated at the University. He was appointed head master of the free-school of Coventry, in which laborious station he not only assiduously attended to his duties, but served the interests of learning, when learning was scantily dispersed, by those numerous translations which gained him the title of "translator-general of his age." He likewise studied medicine and practised with considerable reputation in his neighborhood; and, when in his 40th year took his degree of M. D. at Cambridge.

He brought up a large family of ten children with credit, was a benefactor to the poor, and so peaceable and inoffensive in his temper, that he was never engaged in a law-suit, either as plaintiff or defendant, though he met with some unjust treatment.

As a reward of his regularity and temperance, he reached his 84th year, in the full possession of his faculties, and with his eye-sight so good, notwithstanding the great use he made of it, that he never had any occasion to use spectacles. He died of old age, in his 85th year having continued his active literary labors 'till his 80th year; and his translations, though void of elegance, are accounted faithful and accurate.

His translation of Livy is said to have been written with one pen, which a lady of his acquaintance so highly prized that she had it embellished with silver, and kept it as a great curiosity. This was the occasion of the following epigram.

"With one sole pen I writ this book,
Made of a gray-goose quill;
A pen it was when it I took,
And a pen I have it still."

On which Dr. Fuller observes "he must have leaned very *lightly* on the nib thereof, though *weighty* enough in another sense."

His other translations were Pliny's Natural History; Plutarch's Morals; Suetonius, and many others. His translation of Suetonius produced the following well known epigram:

"Philemon with translations doth so fill us,
He will not let *Suetonius* be *Tranquillus*."

The literary feats of Holland were only equalled by Andrew Torqueau, who is said to have produced a book and child every year, 'till there were twenty of each, or, as some say, thirty. This, with the circumstances of his being a water-drinker, was the occasion of the following humorous epitaph:

"Here lies a man who drinking only water,
Wrote twenty books, with each had son or daughter;
Had he but used the juice of gen'rous vats,
The world would scarce have held his books and brats."

J. H. H.



ET Medici, & Medicæ vivâ artis imago reperta est,
Quam tibi SENNERTI *picta tabella refert.*
Candorem facies, Medicinam mens; sed utramq;
Exhibet & Medici hoc & Medicæ artis opus.

Wolfgang. Schaller / Phil. & Med. D.
ac Prof. p.t. Acad Witeberg. Rector.

DANIEL SENNERTUS.

An eminent physician of Germany, was born at Breslau, where his father was a shoemaker, Nov. 25, 1572. He was sent to the university of Wittemberg in 1593, and there made a great progress in philosophy and physic, after which he visited the universities of Leipsic, Jena, and Frankfort upon the Oder; and went to Berlin in 1601, whence he returned to Wittemberg the same year, and was promoted to the degree of doctor in physic, and soon after to a professorship in the same faculty. He was the first who introduced the study of chemistry into that university. He gained great reputation by his writings and practice; patients came to him from all parts, among whom were persons of the first rank; his custom was to take what was offered him for his advice, but demanded nothing, and restored to the poor what they gave him. The plague was about seven times at Wittemberg while he was professor there, but he never retired nor refused to help the sick; and the Elector of Saxony, whom he had cured of a dangerous illness in 1628, though he had appointed him one of his physicians in ordinary, yet gave him leave to continue at Wittemberg. He probably fell a sacrifice to his humanity, for he died of the plague at Wittemberg, July 21, 1637.

Sennertus was a voluminous writer, and has been characterized, by some critics, as a mere compiler from the works of the ancients. It is true that his writings contain an epitome, but, it must be added, a most comprehensive, clear, and judicious epitome, of the learning of the Greeks and Arabians, which renders them, even to this day, of considerable value as books of reference, and is highly creditable, considering the age in which they were composed, to his learning and discrimination. It must not be forgotten that he also attained some fame as a philosopher and was the first restorer of the Epicurean system among the moderns. In a distinct chapter of his "Hypomnemata Physica," or "Heads of Physics," treating of atoms and mixture, he embraces the atomic system, which he derives from Mochus the Phœnician. He supposes that the primary corpuscles not only unite in the formation of bodies, but that in their mutual action and passion they undergo such modifications, that they cease to be what they were before their union; and maintains, that by their combination all material forms are produced. Sennertus, however, confounded the corpuscles of the more ancient philosophers with the atoms of Democritus and Epictetus, and held that each element has primary particles peculiar to itself.

Sennertus with his son-in-law, Mich. Doering, was the first to describe scarlet fever, which they observed sporadic cases of in Breslau and Warsaw in 1625, and occurred as an epidemic in 1627.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

ACCUMULATION OF PUS IN THE FALLOPIAN TUBES.

BY GEORGE WACKERHAGEN, M.D.

Read before the Brooklyn Surgical Society, Dec. 2d, 1892.

The subject of pyosalpinx, as far as its cause, symptoms and pathology are concerned, is so generally understood at the present time, that I should needlessly occupy the valuable time of this Society, were I to give these points more than a passing notice, the principal object of this short paper being to give my experience in the treatment of cases where the accumulation and distention has been of recent occurrence, and to suggest a method by which laparotomy may sometimes be avoided.

Of course we all know that this condition is of septic origin, and it is surprising to note that neglect of aseptic and antiseptic precautions having been considered criminal for so many years

past, that some physicians and surgeons have still persisted in treating their patients with unclean hands and instruments. And so we frequently find this disease produced by the introduction of the uterine sound, or by the application of the curette, though gonorrhœal infection, and catarrhal affections of long duration, which have resulted in suppuration, are also common causes of pyosalpinx. This infection, so easily developed in the uterus, because of continuity of structure, soon involves the Fallopian tubes, and when the opening at the fimbriated extremity is not closed, the disease extends to the ovaries, and surrounding structures. As I understand it, however, this leaking of the pus through the distal opening, and also perforation of the tubal abscess, is of rare occurrence. I have not had an opportunity to satisfy myself on these points from personal observation, for the reason that up to the present time I have not found it necessary to insist upon laparotomy in these cases.

The symptoms of pyosalpinx are often introduced by a decided chill followed by rise of temperature and pulse; pain is sometimes very severe, indicative of localized pelvic peritonitis. Upon examination by vagina and rectum there is found a tender and fluctuating tumor situated behind or to one side of the uterus. These signs, with an intelligent history of the case, will generally prove the nature of the sickness.

With regard to management, other than laparotomy, it has been suggested that a sound passed from the uterus into the Fallopian tube would much facilitate treatment, but I think that this is generally considered a very questionable procedure for fear of puncturing the tube, or forcing its contents through the opening of the fimbriated extremity.

By some surgeons a method of pressing the contents of the tumor into the uterus has been practiced, but this is also objectionable, for the reason that the pus might be forced into the peritoneal cavity instead of into the uterus. Either of these plans of treatment might endanger the life of the patient from shock, or cause a fatal peritonitis.

Then again puncturing the abscess through the vagina or abdominal wall has been advocated, and here, also, we find objections.

1st. The difficulty of maintaining effectual drainage through the vagina, and

2nd. The danger of wounding the intestines when puncturing through the abdominal wall.

If the disease has been of long duration, with probability of extensive adhesions involving adjacent structures, the only proper method is abdominal section.

The patient being placed in the Trendelenburg posture and the incision made sufficiently long (not confining one's self to the two finger opening) we are enabled to have a good view of the pathological condition, to separate adhesions intelligently, to control hæmorrhage and to properly place our iodoform gauze for drainage; indeed, as the technique of the operation becomes more and more improved, the rate of mortality grows insignificantly low.

In cases where the patient has been under constant and early observation, where there has been little time for extensive adhesions, I most earnestly advocate the following treatment.

The vulva, vagina and surrounding parts having been cleansed as thoroughly as possible by brush, soap and water, are then irrigated with bichloride solution 1-2000, a rubber or steel applicator wound with cotton and saturated with pure carbolic acid is passed into the uterus. A small uterine dilator, which has also been dipped in pure carbolic acid is then introduced into the cervical canal, and gradual dilatation is commenced. This is continued daily until the uterine catheter can be easily introduced, and irrigation practiced after each dilatation. As soon as the catheter can be easily passed, pus begins to flow, and the sac is gradually reduced in size until it disappears. After each application a pledget of absorbent cotton, saturated with boro-glycerate of alum is placed against the cervix and allowed to remain until the next morning, when it is removed, and the vagina is irrigated with borosalicylic solution; this irrigation is continued every eight hours.

I am unable to explain the reason, but it has been my experience, that as soon as thorough dilatation has been accomplished, pus begins to flow copiously and the distended tube gradually to diminish, until all pathological condition disappears. It may be possible that the dilatation of the muscular fibres at the cervix causes a simultaneous relaxation at the tubal attachment of the uterus.

I will give brief histories of four cases.

Mrs. L., aged thirty-two, came under my care July 19, 1885, suffering from gonorrhœa, which involved the bladder, external genitals and vagina. The disease did not extend to the uterus and Fallopian tubes until the infection had existed three weeks. The distended Fallopian tube could be felt as large as a hen's egg by vaginal and rectal examination. The pain was so severe at times that it produced great prostration, bordering on collapse.

I shall not recite details as to pulse, temperature, or general treatment, but will state that she recovered gradually by the dilating treatment, was perfectly restored to health in two months, and has had no return of pain in the region of the ovaries since that time.

Case II.—During my absence from the city in August, 1886, Mrs. C., aged thirty-five years, was taken with metrorrhagia. The medical gentleman who was called in attendance advised immediate curetting of the u erus, which was performed on the 12th of August, without antiseptic precautions. This resulted in septic corporeal endometritis, followed by suppuration, which promptly extended to the left Fallopian tube.

I was called home to attend her, and found her suffering with all the symptoms of local pelvic peritonitis, a tumor as large as a small orange filling Douglas' cul-de-sac, extended to the left side, evidently involving the ovary. This tumor could also be felt distinctly through the left abdominal wall.

The patient was so prostrated that at no time in the early stage of the sickness was she in a fit condition to warrant an attempt to perform laparotomy, and I was obliged to confine myself to local antiphlogistic and general supporting treatment, for a period of five days, when the dilating method was commenced, and was continued until the tumor disappeared. This patient was under treatment for a period of three months, resulting in complete recovery. She has not since complained of pain in the region of tube or ovary.

Case III.—Mrs. N., aged twenty-seven. Treatment Sept. 10, 1891. This infection was the result of gonorrhœa. Like the first case recited, he disease involved the external genitals, bladder, vagina, uterus and Fallopian tube of the left side. The tumor was so large that it obstructed the action of the bowels, and fearing that the tumor would burst into the peritoneal cavity, I advised laparotomy. To this the patient positively objected, and I was obliged to content myself with the dilating treatment which resulted, as in the previous cases, in happy and complete recovery.

Case IV.—Mrs. M., aged forty-one years. This patient had been treated by her family physician for endometritis, from which she had been suffering from time to time for several years. As she was not well pleased with the results, he proposed to call in consultation a gentleman who had more repute in that specialty. A consultation was accordingly held, and the consultant introduced (as I was informed) a pair of filthy uterine forceps into the uterus, and removed, as he stated, small polypi.

The treatment resulted in suppurative inflammation, which in ten days extended to the left Fallopian tube and afterwards, by leakage, into the peritoneal cavity, producing collapse, which nearly proved fatal. At this time a specialist from New York was hastily summoned and advised abdominal section; to this the patient positively stated that she would not submit.

February 25, 1892, five days later, I was called in consultation. Temperature 105°, pulse 140, intense pain. She still refused an operation, and I suggested application of ice over the seat of pain, and opiates internally with general supporting treatment. On the day following we were greatly surprised to find the patient much improved, the temperature and pulse were considerably reduced, and on the next day I commenced the dilating treatment, and on the fourth day quantities of pus discharged from the uterus, the tumor gradually decreasing in size, with continued general improvement.

This treatment was continued through March and April with good results, so that she was in comparatively good health until September, when she again complained of pains in the left ovarian region. This disappeared under a few applications of the galvanic electricity.

She has gained eighteen pounds since her sickness, and states that she has not enjoyed such good health for years. There is nothing abnormal to be detected by examination.

I have not been so perfectly successful in all cases. Some of them still require occasional treatment by the galvanic current, but the pains have not been severe enough to prevent them from engaging in their usual occupations.

DISCUSSION.

Dr. Wunderlich.—I have employed dilatation of the cervix in the treatment of several cases of pyosalpinx with satisfactory results. I did not make complete dilatation, and did not cauterize the cervix. Subsequent to a moderate dilatation of the cervix I have syringed the uterine cavity out with a weak solution of chloride of zinc; and my experience has been, that after the dilatation had been performed several times the pus escaped more freely and the condition of the patient was very much improved.

Dr. Pilcher.—I would like to ask the reader of the paper what advantage attaches to the gradual dilatation by repeated insertion of the dilating substance over the immediate dilatation by means of a proper dilating instrument; whether he attaches any importance to the dilatation being accomplished gradually.

Dr. WACKERHAGEN.—Had I practiced immediate and complete dilatation it would have been necessary to administer an anæsthetic. In neither of these cases would it have been proper because of the extreme prostration, and I think immediate and complete dilatation would produce too much irritation.

Dr. LEWIS.—Do you mean that the treatment has been continued longer, but the dilatation was sufficient after three or four days?

Dr. WACKERHAGEN.—I think that was about the time required to produce sufficient dilatation to introduce the uterine catheter.

Dr. WOOD.—Did I understand from the writer that the instruments were dipped in pure carbolic solution?

Dr. WACKERHAGEN.—Yes, for antiseptic purposes. In performing dilatation there may be slight laceration and possible infection of the uterus, for that reason I have made it a rule to immerse the instruments in pure carbolic acid.

Dr. BRISTOW.—There is only one question which occurs to me and that is whether the five days which, as I understand, elapse before the tube is relieved of pus, would not make an element of danger which perhaps would be greater than the risk of immediate dilatation.

Dr. WACKERHAGEN.—Not having practiced immediate dilatation in these cases I cannot answer that question. In other cases I perform immediate dilatation and complete it at once.

Dr. PILCHER.—These have all been recent cases as I understand. The large number of cases, however, which come under our care are chronic, in which the orifice of communication with the cavity of the uterus has been occluded so that we have practically simply an abscess, not a suppurating Fallopian tube but the Fallopian tube converted into an abscess. In such a case as that the treatment would hardly be applicable. On the other hand, my own observation of these cases of acute suppuration is that under proper treatment a great majority of them relieve themselves spontaneously, even without the method which has been followed out so successfully. And the query arises in my mind as to how much their treatment has had to do with the excellent results which have been reported to us. I don't quite get the significance of the conditions which might be supposed to take place in bringing about these results under this particular treatment, and for that reason it seems to me that there is a little ground, at least, for us to feel that possibly the results were due to the general antiphlogistic treatment to which the parts were subjected, rather than to the dilatation.

Dr. Wackerhagen.—I cannot give an opinion regarding cases which have relieved themselves spontaneously, so I am unable to make any statement in that respect. As stated in my paper these cases were under early observation, and the dilating treatment commenced very soon after the accumulation of pus. When the tube becomes an abscess, closed at both ends, it certainly would be a case for abdominal section.

Dr. Pilcher.—We ought not to lose sight of the fact that most persistent, well-directed efforts of all antiphlogistic kinds are a part of this treatment that has been detailed to us this evening. I want to call attention to the existence of these other factors. In general, caution is to be used against dilatation in cases of septic disease of the appendages, unless we are ready to go on at once and remove the appendages, and I think the experience of almost everyone who has had much to do with the treatment of these cases, if rehearsed, would bring to mind cases where latent disease of the appendages has been overlooked, and has been reawakened to severe proportions by some interference with the uterine canal or with the cervix.

Dr. Lewis.—Of course we all know that the opening of the Fallopian tubes is very small. What the connection is between the dilatation at one horn and at the cervix, I do not know, if there is any, but it would seem that it would be a good thing to have the internal os, which is usually so tightly closed, opened, whether the dilatation sympathetically or in any other way causes the horn of the uterus to relax, or not, but I should think it would be a good idea as has been suggested to have the lower opening of the uterus patent. In a great many cases we find difficulty in introducing a simple probe so as to allow any secretion to escape; it would be a good thing to have the mouth open so that any secretion that did get into the tube might escape.

Dr. Wunderlich.—I was led to make use of dilatation owing to the fact that I found a contraction of the internal os which, in my opinion, interfered with the escape of the pus.

Dr. Wackerhagen.—It would appear that if there were a moderate dilatation of the internal os that there would be some pus discharging. As stated in my paper I do not find pus until dilatation is complete; that is the point I make. I have not found pus discharging after the first, second or third dilatation; not until the uterine catheter can be easily introduced.

TRAUMATIC FEVER AND SURGICAL ANTIPYRESIS.

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PRIMARY WOUND FEVER.

In the consideration of the subject under discussion it will be necessary, in order to view the matter in its proper light and to appreciate its importance from the standpoint of the surgeon, to discuss the etiology of fever as it comes under the observation of the latter.

Although many views have been advanced as to the etiology of fever, it is now very generally agreed that the most important factor entering into the febrile condition is the augmented tissue metamorphosis which occurs. The causes of the latter may profitably occupy our attention for a time. The connection between changes which occur in the wound and the patient's general condition are now well known. The most casual observer cannot fail to notice the fact that, with the first occurrence of putrefaction in a wound, a rise of the general temperature occurs, and with the advance of putrefaction, or in the case of retained wound secretions, a further elevation takes place. The slow subsidence of the temperature during the period when the wound surfaces are clearing, or its rapid decline following the establishment of free drainage when the elevation depends upon retained wound secretion, or the opening of an acute abscess, are facts too well known to require more than a bare mention here. All these are suggestive of but one theory to account for their occurrence in connection with each other. The wound itself contains the noxious agent or agents which produce the rise in temperature, and these agents are pyrogenic to the whole body.

The question as to the character of these agents which serve as etiological factors in the production of wound fever has long been a vexed one. In 1822 Gaspard, and subsequently Majendie and others, demonstrated that putrid matters injected under the skin of animals invariably produced fever. Endeavors to isolate an active principle of a chemical nature in the putrid material were only partially successful (von Bergman's sepsin). A fresh impulse was given to the investigation when the rôle which micro-organisms played in the production of wound infection was properly

understood, and the presence of these was demonstrated in the blood itself. The action of bacteria upon organic substances has long been known; it now only remained to appreciate at its true value the fact that the infectious agents or toxic principles, the ptomaines, depended upon the processes of life of these micro-organisms.

The advanced methods in bacteriological research and increased knowledge as to the pathogenic character of certain micro-organisms have year by year confirmed the opinion that the presence of bacteria in the tissues, or in the blood itself, or both, not only produces inflammation, but fever as well. At the present day the opinion is very generally held that the fever which follows the infliction of a wound depends upon soluble poisons, the ptomaines, which, acting as a pyrogenic agent, exert a general influence upon the body, either through the nervous system or through the lymph and blood channels.

These agents may exert their influence in three ways: First, by irritation of the peripheral nerves, which, by reflex action, affect the central nervous system; second, by being taken up by the radicles of the lymph channels and also by the smaller veins, and thus reaching the circulation, acting directly upon the central nervous system; third, by being taken up through the last-mentioned channels, passing into the general circulation, and being transferred thence with the tissues of the body, where their presence excites an increased tissue metamorphosis.

In regard to the first named of these, it cannot be denied that such a thing as fever from reflex irritation exists. Clinical observation supports this view. The classical condition known as urethral fever is to be so classed. Other examples, familiar to physicians, are the chills and fever, which occur in hepatic colic; neurologists also class among the reflex nervous conditions the fever which occurs in progressive paralysis. Although the first named has been claimed to be due to infection from unclean instruments, or a putrid condition of urine coming in contact with the urethral tract, yet it has been observed to follow the introduction of strictly sterilized instruments with a healthy urethra in cases in which no irritating agents were present in the urine. What is more important, however, urethral fever can be prevented, in the great majority of cases, by the administration of a full dose of opium. It is also a clinical fact that the treatment by gradual dilatation of a stricture of the urethra will be followed upon the occasion of each introduction of the sound by a chill; this method of treatment being abandoned and a cutting operation (internal or ex-

ternal urethrotomy) substituted, no such disturbance, other things being equal, follows. These attacks seem to be the result of a temporary disturbance of the normal process of heat elimination, and would seem to confirm Franke's definition, who attributed to reflex action alone all the phenomena of fever. At all events, it has not yet been demonstrated that the reflex febrile conditions mentioned are accompanied by increased metamorphosis and production of heat. But in the fever following a wound the course of the symptoms and the conditions present differ greatly from the above. The postponement of the symptoms for twenty-four to forty-eight hours, compared to their rapid development in the former class of cases renders it very improbable that they both have their origin in the same way. It may be suggested that the toxic material develops later in the one case than in the other, and that in both their influence by peripheral nerve irritation is excited. Tetanus is cited as an instance of a wound disease due to specific infection, which in its incipiency originates as a peripheral nerve disturbance. If the nerve trunks of an animal are resected and thus reflex disturbances rendered impossible, artificially produced suppurative inflammation is followed by all the phenomena of fever. On the other hand, the injection of putrid material into the veins is invariably followed by typical febrile symptoms.

The second manner, or that which relates to the influence of the toxic agent exerted upon the central nervous system through the medium of the circulation, was first suggested by Virchow, who attributed to the central cerebro-spinal system an inhibitory influence upon tissue metamorphosis and heat production, and asserted that fever resulted from a disturbance of this inhibitory function. The supposed discovery of a heat centre in the brain by Tschechichin in 1866, and the subsequent announcement of Nannyn and Quincke that this centre is located in the spinal cord brought out the Liebermeister theory that an increased metamorphosis led to an increased heat production, on the one hand, while a paralysis of the inhibitory heat centre lessened the proportionate elimination of heat on the other. Neither experimental study nor clinical observation have as yet supported the theory of one or more heat centres.

The theory of vaso-motor disturbances advanced by Claude Bernard and Schiff has found some adherents. These observers combatted Franke's views, and Bernard denominated the vaso-motor nerves "thermic nerves." Whether the disturbances in question consisted of a paralysis of the constrictors, or irritation of the dilators, or both, as suggested by Leyden, is not quite

clear. In any event, there is an irregular distention and contraction of the vessels which exceeds that which may be considered as within normal limits.

There can be no question that the entire nervous system is more or less disturbed in the febrile condition. This is shown by the muscular tremblings occurring during a chill, the convulsion which so frequently ushers in an attack of fever in children, the cerebral disturbances and psychical irritation, the excessive sensibility—all these are the results of the presence of the pyrogenic agent. The vaso-motor nerves partake more or less of this general disturbance, as is shown by the alternate flushing and pallor of the surface, as well as the varying sensations of heat and cold. But these latter are rather a part of the general effects of the morbific agent and not a cause of the fever, since it has not yet been shown that these vaso-motor disturbances are the cause of augmented metamorphosis and increased heat production.

It has been quite definitely established that the muscles and glands are the chief sources of animal heat in the normal state. Increased irritation of these organs, therefore, was thought to be the source of increased heat. Thermo-electric measurements in animals, in whom fever had been artificially produced, demonstrated the fact that, even in inactive conditions of the muscles, heat production is increased, as shown by elevation of temperature of the adductor muscles and the blood in the common iliac vein, as compared to that in the left side of the heart. The same increased heat production is believed to take place in the glands. In the case of the muscles this is thought to be due to the so-called "insensible innervation," the result of the irritation, and in the case of the glands to the irritation of the nerves governing the secretory function.

Neither direct irritation of the nerve centres, nor vaso-motor disturbances are sufficient to account for the increased metamorphosis occurring in fever.

As to the direct influence of the pyrogenic agent upon the blood and tissues, there is an evident increase, during a febrile attack, in the urinary coloring matter, due to the augmented decomposition of the red blood-corpuscles. This destruction of the red blood-corpuscles occurs to a still greater extent in highly septic conditions, and constitutes the so-called hæmatogenous icterus. The diminution of the red blood-corpuscles during the fever stage of an intermittent, as compared to the interval, has been demonstrated by actual experiment. Certainly no nerve interference can be said here to be possible.

What occurs in the blood without nerve influence can also occur in the tissues to which the circulation conveys the pyrogenic agent as well. The character of the latter, as well as that of the tissues with which it comes in contact, will govern, to a great extent, the occurrence and extent of the effects, just as specific effects are observed after the administration of certain soluble poisons, such as strychnia, curare, mercury, etc. The presence of a ptomaine, or amorphous ferment in the blood and tissues on the one hand, or of bacteria upon the other, will determine the character and extent of the changes produced. So far as the bacteria are concerned, these circulate in the blood, and accumulate at certain places of deposit, these being more particularly in the large abdominal glandular organs, such as the liver and spleen, and in the medullary structure of bones. The free supply of blood to these localities carries them there in greater numbers and the retarded current causes them to collect there. Increased metamorphosis results from the irritation which their presence induces, which, in its turn, increases the production of heat, and explains the increased temperature observed by Heidenheim and Koerner in the common iliac vein in the experiments alluded to.

The increased production of heat due to inflammation itself is not to be lost sight of, although it alone cannot explain the whole phenomena of fever, as was suggested by Zimmermann and some of the older authorities. Its cooperative influence is not to be denied, and it is scarcely probable that the large increase of cellular elements and increased movements of the leucocytes can be accomplished without the production of increased heat.

Experimental research and clinical observation therefore justify the conclusion that wound fever consists in an increased tissue metamorphosis which is the essential result of the influence of pathogenic bacteria. This influence is excited either directly by the processes of life of these micro-organisms, or indirectly by their products of decomposition. In addition there is present irritation of the sensory nerve centres, the motor nerves and particularly the vaso-motor nerves. The disturbances of the last named cause temporarily decreased elimination of heat and increased irritability of the nerves of the vessels.

The course of primary wound fever is usually an acute one. A rather sudden rise of temperature is observed upon the first or second day following the operation or injury. The pulse becomes rapid, the tongue coated and the skin dry and hot. There are some peculiar variations of temperature which should always arouse suspicion. The thermometer may show a rise to 102° F. by

the evening of the second day, but the next morning it is found to have dropped a degree or two, and the first suspicion that all is not going well with the wound subsides in the mind of the practitioner if he be not on his guard. In the evening he is surprised to find the temperature still higher than upon the preceding evening, and he is now fully aware that a septic process has been initiated in the wound, which, without care in its management, may imperil the limb, if not the life of his patient. The subjective symptoms consist of a sense of great heat, and a burning thirst, the patient is usually very restless, and there may be delirium. The increased amount of coloring matter in the urine, due to the more rapid breaking down of red blood-corpuscles, gives to that secretion a characteristic high-colored appearance.

The duration and termination of the attack depends upon the condition of the wound, and the course of the healing process. Usually the attack terminates in about a week, and the beginning of the improvement is coincident with the clearing off of the wound, upon the third or fourth day. Simultaneously with this clearing off process, granulations spring up on the wound surfaces. These latter do not possess lymph channels, and hence one of the most available routes for ptomaines to gain access to the general circulation is closed. The temperature now falls, not suddenly, but gradually; as the products of decomposition are thrown off the increased tissue metamorphosis, which their presence excited, lessens, and the vaso-motor disturbances, which interfered with normal heat elimination, subside. With the lowering of the temperature the other symptoms gradually disappear. The tongue becomes clean, the skin moist and cool, and the urine resumes its normal characteristics. The uneasiness of the patient gives way to a sense of rest and comfort.

An examination of the wound at this time will, if the symptoms are due to sepsis, reveal the evidences of bacterial infection. Upon removing the dressings the first thing observable is the presence of an area of inflammatory redness, some swelling of the edges of the wound and tenderness. The swelling gives rise to some eversion of the wound edges, and increased tension of the sutures, the latter are more or less completely buried in the margins. From this latter circumstance the presence of bacterial infection is derived, and the ill-effects observed are attributed to tension. In the vast majority of cases, however, the irritation and inflammation are due to the presence of micro-organisms along the track of the sutures or developed in retained wound secretions. In the former case stitch abscess occurs; in the latter more serious results follow. If relief is

not quickly afforded the inflammation extends into the neighboring tissues, the lymph channels become infected and neighboring lymphatic glands become involved in the septic process. The area of tenderness extends, blebs form at the wound margins, and sometimes a blueish line is formed along the edges of the incision and at the site of each stitch wound. If the bulk of the wound cavity be far below the surface, and no relief is afforded by artificial means, the constitutional symptoms increase, the local conditions are aggravated and the case assumes a decidedly serious aspect. The temperature rises and lowers again, as fresh supplies of infectious material are poured into the circulating medium on the one hand, and eliminated on the other.

SECONDARY WOUND FEVER.

Secondary wound fever or the fever of suppuration is a condition quite distinct and apart from that which has just been considered, although just as the aseptic wound fever may merge into septic primary wound fever, so the latter may run into the fever of suppuration in cases in which extensive or chronic suppuration is set up by the presence of the micro-organisms of suppuration, the so-called pyogenic cocci. The fever may be ushered in by a chill, but this is not the rule by any means, as is commonly supposed. The range of temperature follows the local state pretty accurately. If the pus have free vent and proper local measures are taken to assure its disinfection after its escape from the wound, the thermometer rarely records above 100° F. On the other hand, if the drainage is defective and the pus does not escape freely, or it is not deprived to some extent of its irritating properties or prevented from undergoing further decomposition, the temperature may rise to 103° or 104° F.

In secondary wound fever, there is developed a chemical poison, the result of either the processes of life, or the decompositive effects of the pyogenic cocci, which in addition to the ptomaines present resulting from the action of the bacteria of putrefaction, may produce a mixed infection. The constitutional symptoms therefore, will vary according to whether the ptomaine-poisoning, or the effects of the pyogenic cocci predominate. The former gives rise to more or less profound disturbances, while the latter, beyond loss of appetite and a sense of lassitude, providing proper local measures have been adopted, attracts but slight attention. Should, however, the discharges from the wound be sufficient to produce burrowing, new channels of infection are

opened up, and the system becomes overwhelmed with fresh accessions to its already existing burden of sepsis.

The course of the fever may become chronic in cases in which the drainage is but relatively efficient. Imperfect drainage may arise from difficulties inherent in the particular case having their origin either in the burrowing of the pus in directions in which it would be imprudent or impossible to follow it by open free incision, or in the inaccessibility of the source of the suppuration itself. Certain spinal abscesses are examples of this. In the chronic suppurative conditions the fever assumes a distinctly remittent or hectic course. In time the general system suffers both from the prolonged drain, or the constant presence of the toxic agents in the tissues, or both. Emaciation becomes marked, diarrhœa and night-sweats set in, and the patient dies from exhaustion and prolonged poisoning, in the course of which degenerative changes in the kidneys and liver occur.

ASEPTIC WOUND FEVER.

The wound fever which has been dwelt upon in the preceding remarks is to be distinguished from another form of fever, occurring in connection with a traumatism, and which has been called aseptic wound fever, or resorptive fever. While the former depends for its existence upon the presence of a pyrogenic agent having its origin in the secretions of a wound which have undergone putrefaction, the latter is produced by the passage into the circulation of particles of dead tissue, the further destruction and oxidation of which occur without the aid of the bacteria of putrefaction. This form of fever is analogous to that which follows intra-venous infusions of sodium chloride solutions, transfusion of the blood of animals, and experimental fevers resulting from intra-venous injections of flour and water, etc. Like these, aseptic fever is characterized by its rapid occurrence and short duration, thus distinguishing it from wound fever proper. In the early days of antiseptic wound treatment, surgeons attributed this form of fever either to a faulty technique or the absorption of the carbolic acid employed. Volkmann advanced the belief that it depended upon the sudden reception into the blood of decayed tissue material, and pointed out the analogy existing between this fever and that which is observed to follow simple fractures. In the latter, the resorption of effused blood in large quantities produces the same result. The blood is overfilled with dead albuminous substances originating from the extravasated blood, the débris of destroyed red blood-corpuscles, and the particles of dead tissue already mentioned.

The transformation of these albuminous substances, which accumulate in the blood in aseptic wound fever is probably due to ferments already existing in the blood, and not introduced from without. A resorptive fever occurs when Schmidt's fibrin ferment is injected into the veins. Some of the digestive ferments will produce the same results, such as pepsin and pancreatin.

Whether the wound be accidental or operative, aseptic fever occurs when the blood escapes into the wound cavity, or when the particles of necrotic tissue undergo, with the former, resorption. The necrosis of tissue may be the result of the antiseptic agent in irrigating the wound, as well as follow the damage done to the tissues by the traumatism inflicted. It may follow within a few hours of the reception of the injury, and is usually of short duration, rarely lasting beyond the third day. The temperature may rise from one to three degrees above the normal. It does not produce, as does the septic wound fever, effects upon the sensorium, nor do patients complain greatly of discomfort from its presence. The appetite is not generally affected. These points, as well as the fact that it subsides at about the time when the septic variety makes it appearance, distinguish it from the latter. The one may merge, as it were, imperceptibly into the other.

TREATMENT OF TRAUMATIC FEVER.

Surgical antipyresis, in the vast majority of cases, consists essentially in the treatment, locally, of septic conditions upon which the fever depends. It can have but one object in view, and that the removal at as early a moment as possible of the condition of putrefaction of the wound secretions in cases of primary wound fever, and affording free exit to pent-up pus in secondary wound fever. Inasmuch as a condition of inflammation is present in the wound, constituting a local state that is coincident with the occurrence of the fever, and is one of the steps in the septic process, the measures which are employed to combat the fever are likewise employed to combat the inflammation. In this sense antipyretic measures become antiphlogistic in character. All measures calculated to remove existing septic conditions must necessarily be such as to oppose sepsis, and therefore a class of remedies have sprung up to which the term antiseptics has been applied.

It is not my purpose, in this connection to enter upon the preventive treatment of the septic traumatic fevers. In cases of operation wounds it is comparatively easy, by the application of a careful technique to prevent first, the entrance of micro-

organisms in sufficient numbers to do serious damage, or second, the infliction of such injury to the tissues as to lower their vital resistance and thus permit the relatively few which do gain admission to exercise their evil influence. This preventive treatment of septic conditions involves the employment of the so-called aseptic measures with the successful application of which the necessity for surgical antipyresis disappears. In accidental wounds, on the other hand, aseptic measures are never applicable, septic conditions, to a greater or lesser extent, supervene, and measures of antisepsis are always in order.

As soon as it becomes reasonably certain, or even a fairly well founded suspicion that septic fever exists in a given case, it is the attendant's first duty to at once remove all dressings from the wound, and investigate its condition and that of its surroundings. One or more sutures will probably need to be removed if the source of infection is found to lie along the track of these, or if it is found necessary to gain access to the cavity of the wound. A free evacuation of all infected areas must be secured, even if this involve reopening of the entire wound. Sloughing portions of tissue along the track of sutures must be curretted away, and a thorough cleaning by irrigation practiced. It sometimes happens, particularly in the case of abdominal wounds which become infected, that the skin surfaces unite, but the deeper portions of the wound become infected along the line of one or more sutures. Under these circumstances, with the removal of the sutures, the curetting of the infected area and perhaps the introduction of a drainage tube along the line of the wound, but beneath the skin, will serve the purpose without tearing apart the united skin edges. A shortening of the tube at each daily dressing until the necessity for its further employment ceases, fulfils all of the subsequent requirements of this class of cases.

In cases where pockets have formed as the result of burrowing into and infection of the surrounding connective tissue spaces, free and open incision of the affected area is the safest course to follow. In some instances this is impracticable, in which case counter-openings will be necessary, so placed as to afford opportunities for through and through irrigation and tube or gauze drainage. In cases where free incision is practiced, the gaping wound is to be packed or tamponed with gauze wrung out of the antiseptic agent selected for the particular case. Gauze or cheese-cloth, thoroughly wet with the same is to be placed over the affected area, and a square of oil silk secured by a bandage over all. No niggardly economy is permissible in the use of the cheese-cloth or gauze in

this connection. Not less than a yard square is to be used in the case of the smallest infected area in the hand, for instance, and five times this quantity is not infrequently necessary to meet the requirements of a poisoned wound of a lower extremity.

Under no circumstances should an antipyretic remedy as such, be administered internally in septic traumatic fever. They are but a mockery, a delusion and a snare. Such a course ignores entirely the pathology of the condition, deludes the practitioner into a false feeling of security, and brings the patient quickly to his undoing. The exhibition of a brisk cathartic is permissible, and frequently indicated. I have found a ten-grain dose of calomel followed by an ounce of sulphate of magnesia dissolved in half a glass of Vichy most serviceable. In primary septic traumatic fever in addition to the local measures and the administration of a cathartic, it may, upon rare occasions be necessary to give an opiate to relieve pain or restlessness, and alcoholic stimulants for the depression.

The temperature now begins to lower, and the patient's condition manifestly improves hourly. Each change of dressing shows improvement likewise in the wound itself. Shreds of broken-down tissue wash out at first from the wound cavity in the primary form; these, however, gradually lessen and finally give way to a more or less purulent secretion. In the acute secondary form the latter is present from the beginning, and simply needs a free exit to insure relief.

The treatment of those cases of acute malignant septicæmia in which the fever is not such a prominent symptom, and in which a profound intoxication of the nerve centres threatens life, as well as the chronic suppurative fever or hectic occurring in the course of a prolonged period of suppuration, and that more remote sequence to local septic conditions, pyæmia, need not detain us here. The first of these is fortunately rare, and there are some special features connected with the others which carries them beyond the limits of our present enquiry.

The aseptic variety of traumatic fever requires no treatment beyond rest in bed and the possible administration of a cathartic. The same remarks will apply to those febrile conditions of reflex origin of which the urethral fever is a classical instance.

In conclusion permit me, at the risk of taxing your patience, to recapitulate some of the points which should be borne in mind in an acute febrile condition following the accidental or operative infliction of an injury, and particularly of a wound.

1st. Every rise of temperature following the infliction of a wound is not necessarily of septic origin. If it be the fever of re-

sorption, it follows very quickly after the operation wound, or injury. The rise of temperature is usually the only symptom present; there are no evidences of increased tissue metamorphosis or disturbances of the sensorium, and the temperature subsides, usually upon the second day; it rarely lasts beyond the third day. No treatment, save a cathartic, is necessary.

2nd. A reflex febrile condition, ushered in by a chill, may occur within a few hours following the reception of an injury, and although it is almost exclusively confined to that known as urethral fever, it constitutes a variety of the traumatic fevers, and the possibility of its occurrence should be borne in mind. It may be distinguished from the septic form by its early occurrence and its rapid subsidence. The occurrence of the rigor distinguishes it from the aseptic variety, and the history of urethral instrumentation usually serves to definitely fix its true character. A small dose of opium suffices for the treatment.

3d. Septic fever requires from twenty-four to forty-eight hours for the development of the conditions upon which its presence depends. The temperature elevation is then what is known as a "crawling temperature." That is to say, it rises slowly, reaches its maximum at night and falls somewhat by morning. It then rises again, reaching a slightly higher point the next evening. The explanation of its presence is sought in the condition of the wound, and found there. The establishing and maintenance of a strictly antiseptic state of the wound is followed by a steady but certain subsidence, not only of the temperature but of the accompanying symptoms.

4th. No antipyretic remedy as such for internal administration has a place in the armamentarium of the surgeon. While supporting measures, including the administration of alcohol, and the inhalation of oxygen are of great value, no remedy, whose sole and only purpose is to lower the temperature is to be thought of in connection with the treatment of traumatic fever.

DISCUSSION.

Dr. Wm. Maddren.—I think the doctor has covered the ground so completely that we cannot do anything but endorse it.

Dr. Geo. R. Fowler.—I wish I could throw away my thermometer and sleep at night. The temperature indications are the surgeon's almost sole reliance in surgical fever, and the comfort which follows after taking down the dressing and removing the stitches and knowing that the temperature will come down by

morning is only second to that which would be obtained if he had no thermometer at all.

Dr. Jewett referred to the present treatment of peritoneal sepsis. I had purposely passed over the attempt to cover that broad ground, but his suggestion brings up a practice which I have not infrequently followed after abdominal operations. The practice is to wash out the patient's stomach just as soon as the patient recovers from the anæsthetic sufficiently to permit of the introduction of the stomach tube, and then putting through the same tube while in the stomach one or two ounces of sulphate of magnesia dissolved in water, expecting it in a comparatively short time to begin the work of draining the peritoneal cavity. This is very satisfactorily accomplished by this means. It is entirely rational and scientific inasmuch as it simply substitutes the intestinal canal for the drainage tube which we place in a wound in which we are not absolutely certain that an antiseptic condition of affairs will exist.

I am obliged for the kind attention which the Society gave to the reading of my lengthy paper, and I congratulate myself in particular and the Society in general that the trend of the discussion on Dr. West's paper was such as to carry it away from my own.

THE SURGICAL PATHOLOGY OF THE MASTOID PROCESS.

BY J. E. SHEPPARD, M.D.,

Assistant Surgeon, Aural Department, Brooklyn Eye and Ear Hospital.

Read before the Brooklyn Pathological Society, November 14, 1892.

[Concluded from Page 209.]

Cholesteatoma.—One of the most interesting conditions found in the ear from a pathological standpoint is cholesteatoma. It is in most cases a result of chronic middle-ear suppuration, and forms either while secretion is still present, or after it has ceased. It is found most frequently in the mastoid antrum, less so in the tympanic cavity. The collection can mostly be recognized by finding in the tympanum, especially protruding downward from the direction of the antrum, whitish membranous masses, which can be loosened up or removed with a probe. The masses in their growth exert upon the surrounding bony walls an irritation which may

lead to sclerosis, to pressure atrophy, or to caries and necrosis. Rupture may take place in any direction. The symptoms to which these collections as such give rise are, a feeling of pressure and heaviness in the head, headache, dizziness, fever; acute exacerbations with severe pain frequently occur. If complete blocking of the discharge exists, the most severe symptoms arise, as high fever, intense pain in the ear and head, symptoms of meningeal irritation, dizziness, vomiting.

Treatment consists in softening the masses by prolonged warm water instillations, injections of warm water through a properly shaped tympanic cavity cannula, breaking them down by means of a bent probe or a flexible sharp spoon. If these means fail the mastoid process must be opened to allow of their removal.

Pathology.—The manner of origin of these growths is still unsettled. Lucae, in '73, said of them, "The mucous membrane over the granulations so frequently arising in chronic otorrhœa, becomes altered in character, loses the appearance of mucous membrane, and becomes converted into a sort of epidermis. A Malpighian layer is formed, and from it, as in the external skin, epithelial scales are produced, shed off, and, owing to the anatomical conformations present, being unable to escape, they collect in these concentrically arranged masses." Wendt, in '74, states, "The mucous membrane undergoes a desquamative inflammation, owing to the irritation produced by the stagnant and decomposing pus." Habermann, of Prague, in a case of cholesteatoma of the antrum, found that he could trace a strand of epithelium growing in from the meatus through the perforation in the membrane, and his view is that, "in chronic cases with destroyed or perforated drum, the epidermis grows inward across the tympanic margin, and under irritating influences, takes on a proliferating inflammation; the epidermic cells, thus produced, are piled up into the characteristic masses." Bezold, Steinbrügge, and Wagenhaüser, confirm this view of Habermann.

Kuhn, to whom was referred the subject at the Berlin Congress, leaves open these two possibilities—he declares that "after careful consideration of all the hitherto published clinical and anatomical data, pearl tumor of the temporal bone presents *either* a true heteroplastic new growth, as has been held by Virchow for all cases. *or*, that it, and perhaps with much greater frequency, may arise in this way, that, in the course of chronic middle ear suppurations, the epidermis of a perforated membrana tympani, or of the external canal, grows inward to the bone spaces of the middle ear, and through continuous throwing off of horny

cells, gradually produces the concentrically arranged cholesteatomatous masses."

In an article by Schmiegelow, published since then in the Archives of Otology, he attacks vigorously the Habermann theory of the inward wandering of the epidermis as being opposed to what is found in similar epidermoid formation in other parts of the body, and refers the origin of cholesteatoma, and of the desquamative processes, entirely to a metaplastic change, which the mucous membrane undergoes as a result of the mechanical pressure of the exudate. In every place where such condition has occurred, in the tympanic cavity, in the mastoid process, in the same way in the nose with ozæna, is observed that the mucous membrane develops a typical epidermoid character, and is furnished with a rete malpighii. Further occurs a throwing off of the superficial epithelial layers, and through their collection, with a hindered exit, is produced the formation of complete tumor masses. This seems certainly a more plausible explanation than the others.

The question whether we shall regard cholesteatoma as a simple tumor, or as the accumulated desquamated products of abnormally placed epithelium is one of practical importance to the aurist, and for the following reasons: If we look upon them as tumors, therapeutically their removal is all that is necessary; while, if we regard them as arising from epithelium in the drum cavity, attic, or antrum, the removal of the mass can have no permanent curative effect, since, the epithelium continuing to desquamate, the cells may re-collect, the treatment thus only removing temporarily the threatening symptoms. Accepting the Habermann theory, the masses must not only be removed, but every recess and hidden cavity where they can re-accumulate, must be laid open, brought plainly into view, and kept so as long as the patient lives.

New Growths.—The *lymphatic glands* over the mastoid may become inflamed and greatly swollen. As very rare occurences may be mentioned *fibrous polypi* and *simple polypoid granulations*, which may arise from the mucous membrane of the mastoid process, and appear through carious defects in the mastoid cortex behind the auricle.

Epithelioma may arise primarily in the mastoid process, and begin with piercing pain, with red and hard swelling of the same. Secondary involvement of the mastoid is, however, much more frequent from primary epithelial cancer of the external canal or tympanic cavity. Such cases are preceded by a prolonged otorrhœa, and may very easily be mistaken for a caries necrotica,

since the symptoms and course of both are for a long period very similar.

Sarcoma.—Schwartze reports having seen three cases in young children, and ascribes to it special practical importance because of the ease with which serious diagnostic and prognostic errors may be made. Initial cerebral vomiting, and strikingly changed apathetic condition were absent in no case, and are, in the early beginning of the growth when other cerebral symptoms are still absent, along with the circumstance that no middle-ear suppuration has preceded, or accompanies it, the most important facts for an early correct diagnosis, which, owing to the extremely misleading symptom of fluctuation, in the beginning may very easily be wrongly made of sub-periosteal abscess. A few cases of dermoid and other cysts in the mastoid have been observed.

To return now to the *treatment* of *mastoid abscess*, *caries* and *necrosis*, etc. In acute cases, without threatening symptoms, it is usually safe and wise to try for two or three days to avoid the necessity for operation by applying locally heat or cold, preferably with Leiter's coil, leeches, blistering, together with thorough antiseptic syringing of the external canal and tympanic cavity. As between early and late operation, however, there can be no hesitation about giving the preference to the former. As to Wilde's incision, of which so much is said, it should in my judgment, except in cases of simple mastoid periostitis, be only the first step in a more thorough-going operation. Owing to our ignorance, previous to operation, as to whether we have to deal with a pneumatic, diploëtic, or solid mastoid process, also as to the relative positions of the cerebral base and the lateral sinus, a guarded opinion should always be given as to the success of the operation.

The indications for the operation are at present formulated under the following eight headings:

1. In acute purulent otitis media, complicated with inflammation of the mastoid process, when the inflammatory symptoms, like the swelling of the skin, the fever, the persistent and severe pain, do not yield to antiphlogistic treatment (ice, leeches). 2. In acute and chronic otitis media, when the escape of the secretion is impeded by granulations in the middle-ear, or stenosis of the external canal, causing recurrent swelling, redness, and painfulness of the skin covering the mastoid process, or in the absence of these objective symptoms, when there is a suspicion of inflammation of the mastoid process. 3. When the mastoid process is apparently healthy, but the removal of pus or cholesteatomatous masses through natural channels is impossible, and symptoms dangerous

to life manifest themselves. 4. In congestive abscesses and fistulæ in the region of the mastoid process, when they cannot be cured within a certain reasonable time, and the general condition is satisfactory, and the patient is free from any diathesis or dyscrasia. 5. In persistent, continuous pain in the mastoid process, yielding to no other treatment, though there is no retention of pus, and the mastoid process seems healthy, especially, however, when it seems sensitive to pressure, and also in the absence of pain in the mastoid, and in free discharge of the secretion, when, in acute and chronic otitis media, there is continuous, even though not high, fever, which does not yield after some time to local or general treatment. 6. As a prophylactic operation, in symptoms present or absent, of retention of secretion, and inflammation of the mastoid process, when death is to be feared on account of imperfect antisepsis. 7. In acute purulent otitis media, in which there is no retention of secretion, but in which the discharge is very profuse, and does not yield to the usual methods of treatment after a certain time (2–3 weeks), or even increases, especially, however, when fever supervenes. 8. When there are distinct symptoms of inflammation of the brain, and the meninges, although in such cases the chances of success are very doubtful.

The operation —Antiseptic precautions should of course be carefully observed. Preparatory to the operation, the whole ear, mastoid region, neck, and side of head, should be soaped and brushed, and the hair, within a radius of three or four inches of the ear, carefully shaved. The parts are rinsed with water, washed with ether, followed by a 1 to 1000 sublimate solution, the ear having been previously syringed and plugged with cotton. The incision of the soft parts should be made, beginning $\frac{3}{4}$–$\frac{1}{2}$ inch above the upper insertion of the auricle, and carried in a curve parallel to, and about $\frac{1}{4}$ inch posterior to, its line of insertion, down to the tip of the mastoid process. If possible cut at once down to the bone, and make the entire incision with one sweep of the knife. This is practically a description of the so-called Wilde's incision. Having done this, the periosteum being at the same time divided, all bleeding vessels should be caught with artery-forceps, or ligated. The periosteum is now pushed backward and forward with a raspatory, until, the parts being held back with retractors, we have a good view of the bone surface. This should be carefully examined for fistulous openings or carious softened spots. These, if found, serve as a guide along which to further open the bone. If none are found, we select for opening the portion of the cortex immediately behind and close to the posterior bony canal wall, whose

upper margin shall not be higher than the level of the superior wall of the external canal. The opening on the surface of the mastoid should be roughly oval in shape, 12–14 mm. in length by 8–10 mm. in width and should gradually lessen in size until the antrum is reached. It should extend inward and forward, and, as the antrum is approached, a little upward, following close along, and parallel to, the posterior canal wall. Thus will be most likely avoided the middle cerebral fossa, the lateral sinus, and the facial nerve. For removing the bone I prefer either the chisel or gouge. As soon as a cavity, presumably the antrum, is reached, it should be verified by passing a bent probe into the tympanic cavity. If this can be done, the opening can then be safely and comfortably enlarged, and a good free opening into the antrum should always be made, otherwise the after treatment is much interfered with. In case the antrum is not reached at the usual depth, rather than abandon the operation as has been frequently done, the following rule should be adopted. After penetrating about $\frac{5}{8}$ inch without finding a cavity, direct the canal more forward, so as to bring the apex over the meatus, when we can easily chisel into the attic and from there working backward, guided by a probe, lay open the antrum.

As regards opening the sinus—if it is only uncovered and not injured, harm rarely results. In fact, even when injured, with consequent free hæmorrhage, serious consequences by no means necessarily ensue. My experience in this direction consists in having opened it once,* and seen it opened once, and in neither of the cases was there a single bad symptom. Having obtained a free opening into the antrum, all ridges and spicules of bone, carious and necrotic bone, granulation tissue, etc., are carefully scraped away with the sharp spoon. Sublimate solution is then syringed in both directions through the external and artificial canals, the parts dried, dusted with iodoform, packed with sterilized or iodoform gauze, covered with a thick layer of sterilized cotton, the whole being held in place with a bandage. The after treatment consists in antiseptic syringing, and packing with gauze, every one, two, or three days, according to the amount of suppuration, the operative canal being kept open till the suppuration in the tympanic cavity and in the artificial canal has entirely ceased; the time required for healing varying from four or five weeks, up to seven or eight months or more. In trouble limited to the apex,

* Since the paper was written I have opened the sinus a second time, the case progressing to a rapid and uninterrupted recovery.

the so-called Bezold form of mastoiditis, if seen early enough, recognized, and operated upon, previous to the carious opening of the bone into the digastric groove, and I believe this can and should be done in a majority of cases, it is usually sufficient to remove the cortex near the tip, and scrape out the affected cells, without the necessity of opening up the antrum. If rupture has taken place, and pus has burrowed into the deeper structures of the neck, the further operation required will depend upon the condition found in each case.

In 1891 Stacke, of Erfurt, made public a new method of operating in chronic cases, which, with a modification by Schwartze, is the latest advance in middle-ear surgery. Stacke's method is based upon the well-known surgical principles involved in the treatment of suppurations within rigid-walled cavities, viz., upon the complete and free laying open of the cavity, so that it can be scraped out, tamponed, and treated surgically, and the operator not compelled to content himself with a more or less imperfect irrigation. The method of Stacke is substantially as follows: The cutaneous incision is made a little differently than has been described, the upper part being kept closer to the auricle, and carried well around to the front. The lower end must also curve more forward, and extend to the tip of the process, the cut, as it were, circumscribing the auricle. The bone being bared, the membranous meatus is separated from the posterior wall, and its attachments internally being cut is in its entirety shelled out of the osseous canal. With a small gouge the most medial portion of the superior wall of the osseous meatus (lower lateral wall of the attic) is cut away, and the exposed malleus and incus removed. The superior wall is to be chiselled off near the drum insertion, till a bent probe, touching the tegmen tympani meets with no resistance in being drawn outward. The probe is then turned toward the antrum, and the posterior wall of the meatus chiselled away till that cavity is freely opened up. In this way Stacke converts attic, antrum, and meatus into one large cavity.

A quicker and easier way of accomplishing the same result, and one which has at Schwartze's clinic superseded the original, is well described by Allen, of Cincinnati, in a recent monograph on "The Mastoid Operation." The antrum is first opened as in the old operation. The membranous meatus is then dislodged from the posterior and superior walls, and held forward against the anterior wall by a one-pronged retractor. A bridge of bone now separates the meatus from our opening into the antrum. We now chisel away this bridge of bone, the piece removed being triangular in shape, the base ex-

ternal, the apex at the neck of the antrum. Care must be taken as the apex of the triangle is approached, not to injure the facial and semi-circular canals which are directly opposite. If the malleus and incus are present they may be now removed. The lateral wall of the attic (superior canal wall) is then removed. Of the posterior canal wall there is now left a ridge partially separating the meatus and antrum—operative canal cavity. As much of this should now be chiselled away as is compatible with safety, the object being to make the attic and antrum as accessible as possible from the external canal.

The posterior membranous canal wall is now split horizontally outward to the concha, and at the outer end of this cut, an incision is made at right angles. Thus is formed a rectangular flap, which, when the soft parts are thrown back into position, we proceed to tampon from the meatus firmly into the osseous cavity with small pieces of gauze. According to Stacke, the tamponing of the membranous meatus into the artificial opening has a double advantage: 1. It causes the formation of a persistent skin-covered communication between the antrum and meatus. 2. It is a skin transplantation from which the formation of epidermis over the entire cavity can take place. The cavity is plugged thoroughly from behind as well as from the meatus, the external wound dusted with iodoform, and by Stacke left open, so that later tamponing can be done from without; by Schwartze in many cases, tightly sutured, and primary union sought for, the cavities being treated entirely through the meatus. The after treatment consists, besides cleansing, in such thorough tamponing and other measures, as to forestall all attempts of nature to fill up the cavity, and to retain every part of the same plainly in view. The operation of Stacke is a truly radical one, the great cavity in the bone remains as it is, never filling up, and it is therefore only indicated in chronic, and otherwise incurable, cases. It is admirably suited to cases where cholesteatomatous masses are found.

ILLUSTRATIVE CASE.

Report of case of recurring middle-ear suppuration—with involvement of attic, antrum, and mastoid process—carious perforation into posterior cerebral fossa—cerebellar abscess—death.

Thos. B., æt., 15 years, Canadian. Came to the Brooklyn Eye and Ear Hospital, May 26, 1892. During the past four or five years has had recurring pain in, followed by discharge from, left ear. For two days past, pain in left ear; membrane reddened, especially over upper portion. Not seen again till September 1st.

Reports that after previous visit pain soon subsided; recurred about August 1st, lasting three or four days; a second recurrence five days ago. Three days ago chilliness throughout the day; since then feverish, drowsy, frontal headache, loss of appetite; membrane much reddened; no bulging; no perforation. About one inch posterior to, and above, the external meatus, a circumscribed tender point. Became an in-patient. Three leeches applied over mastoid; ice poultices.

September 2nd. Has had one or two chills; temperature 101.5° to 102.5°; vomiting; a minute perforation in Schrapnell's membrane; syringing of external canal; ice continued locally.

September 3rd. Symptoms continue. Operation, first, membrane and malleus removed through canal; so much offensive pus escaped from the direction of antrum, it seemed wiser to open the latter from without, this was done, cavity scraped out, and syringed from front and back. An incision upward and backward to the tender point mentioned above showed here a localized periostitis.

Until September 12th, continued to have chills at irregular intervals, and a very erratic temperature, ranging from 96.8° under the influence of quinine up to 105.6°. At times vomiting and frontal headache. On this date eye-ground examined and found normal. Here occurred a pretty well marked remission of symptoms until September 20th, when again for five days he had chills, fever, frontal headache, and some vomiting.

September 22nd. Left eye-ground showed some swelling of disc, and indistinctness above; vessels slightly tortuous (beginning optic neuritis). From September 25th until October 6th, symptoms remitted so entirely that he was able one or two days to leave the bed and be about his room.

October 6th. Commenced again with frontal headache, nausea, vomiting, dizziness when the wound was dressed.

October 8th. Well-marked optic neuritis, more in left eye; some exudation in right disc.

October 10th. Slight mental irregularities first noticed.

October 11th. Pupillary reflexes sluggish.

From October 6th to 11th, inclusive, dizziness was more or less constant.

October 12th. Pain in back of neck.

October 13th. Slight opisthotonos, headache becoming very severe; on questioning as to its location, always replied that it was frontal.

October 15th. Cheyne-Stokes respiration; consciousness till afternoon of October 18th.

October 19. 4 A.M. death. No chilliness since September 24th. Temperature not above 100° since September 29th.

Medication at various times consisted of quinine, quinine and tinct. ferri chloridi, later iodide of potassium.

During the illness he was seen by two general practitioners, an aurist, and a neurologist, all of whom are eminent in their respective departments, from whom counsel was sought both as to diagnosis and treatment. In the matter of diagnosis, the opinion leaned strongly toward meningitis. As to treatment, the opinion was unanimous against the advisability of opening the cranial cavity, for the expressed reason that there were no symptoms to indicate the involvement of one part of the brain more than another.

Autopsy, by Dr. J. M. Van Cott, six hours after death. Considerable continuous oozing of dark-colored blood from the wound of operation. Skull bone unusually hard, with exceedingly firm texture. Dura everywhere intensely congested on venous side; calvarium somewhat thick, otherwise normal. Left hemisphere bulges considerably in its superior portion. Convolutions at vertex everywhere somewhat flattened. Veins of pia mater enormously distended with dark-colored blood, and pia moderately œdematous in circumscribed areas between the convolutions. There is considerable clear serous fluid in the middle fossa surrounding the medulla. Both lateral ventricles normal. Basal ganglia normal; third and fourth ventricles normal. Left cerebellum somewhat enlarged, and greatly softened in its outer posterior half. On lateral section, dividing it into upper and lower segments, the cerebellar tissue is everywhere moderately disintegrated, and there is an abscess, roughly spherical, and one inch in diameter, containing rich, creamy pus, situated a good inch from the connection between the cerebellum and the left cerebral hemisphere. The meninges at this point are perforated. The inner table of the mastoid, posteriorly and above, is perforated by caries, allowing the pus to come in contact with the lateral sinus wall. It had caused here a localized phlebitis, without thrombosis, the pus having burrowed upward, outward, and backward; the dura is here much thickened and has been perforated, thus allowing the entrance of germs into the cerebellar substance. Above the perforative opening of the mastoid is a considerable area of superficial caries on the posterior surface of the pyramid. Of the other organs all were found practically normal, excepting only the kidneys.

Left kidney.—Normal in size, fairly firm in consistence, capsule not adherent; cortex somewhat swollen; markings fairly distinct.

Right kidney.—Resembles in all respects the left, and small miliary masses or areas are indiscriminately located in the cortices of both.

Appended is the temperature record:—



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EDITORIAL.

CYRUS EDSON, M.D.

Mayor Gilroy, of New York, has appointed Dr. Cyrus Edson to fill the vacancy in the Health Commission, caused by the resignation of Dr. J. D. Bryant, who, during his term of office, has been a most efficient and zealous public official. The training which Dr. Edson has had as inspector and Sanitary Superintendent equips him for the responsible position in which he will be placed as Health Commissioner of the great city of New York. We congratulate the citizens of that metropolis, and especially the profession, on having so capable a man in the place of Dr. Bryant. Dr. Edson will, we are confident, greatly miss the counsel of that experienced sanitarian, Dr. E. H. Janes, whose death we chronicle in this issue.

BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

This society held its annual dinner at the Germania Club, and it was a most enjoyable affair. The society is one of the most active in the profession of either city, and its scientific work is of the highest character, as our readers have already had an opportunity of seeing for themselves.

BROOKLYN THROAT HOSPITAL.

The board of directors of this institution gave their annual dinner on April 4th, at the Hanover Club, and the occasion took the form of a social reunion of the board and the medical staff. Short speeches were made by the President, Henry A. Powell, Esq., Hon. James D. Bell, Dr. L. S. Pilcher, Hon. Bernard Peters, Rev. John M. Kiely, Dr. Reuben Jeffery, Herbert Gunnison, Esq., and Dr. J. H. Raymond. Those who were present as guests were surprised at the reports which were read, showing the rapid progress which the institution has made during its brief existence, and the vast amount of work which it is doing in its special line. We shall hope soon to present a statement of this work, that the profession may be informed of its usefulness and extent.

LONG ISLAND COLLEGE HOSPITAL.

The annual dinner of the Alumni Association of this institution took place March 21st, and was attended by two hundred alumni and their professional friends. The feature of the occasion was the presence of Prof. R. Ogden Doremus, the only living member of the first Faculty, and Dr. A. Du Berceau, the oldest graduate. Prof. Doremus made a most entertaining speech, which was enjoyed by old and young alike. Speeches were also made by Mayor Boody, Dr. George Ryerson Fowler, representing the State Board of Medical Examiners, Hon. E. M. Shepard and Frank R. De La Vergne, of the class of 1893.

The commencement exercises were held at the Academy of Music on the 22d. The valedictory was delivered by Dr. Frank Terry Brooks, and the oration by Dr. Alexander Hutchins.

At the annual meeting of the Alumni the following officers were elected for the ensuing year: President, W. M. Hutchinson; First Vice-President, Reuben Jeffery; Secretary, H. K. Bell; Treasurer, L. Coffin. The Association resolved to have a vice-president for each State in th Union.

OBITUARY.

EDWARD HOUGHTON JANES, M.D.

Dr. E. H. Janes, Assistant Sanitary Superintendent of the Board of Health, died in New York, March 12th, of heart disease, at the age of seventy-three. He studied medicine at Hope, N. J., and was afterward graduated from the Berkshire Medical Institute. In 1857, he began the practice of medicine in New York. When the cholera threatened New York in 1866, and the Health Board was reorganized, he was appointed sanitary inspector, and was a member of the Sanitary Commission in 1867. In 1872, Dr. Janes succeeded Dr. Moreau Morris as city Sanitary Inspector, and held the office until 1873, when he became Assistant Sanitary Superintendent, which office he held up to the time of his death. For ten years Dr. Janes supervised the hospitals of the Health Department, and organized the Riverside Hospital on North Brother's Island. He occupied the chair of hygiene in the Woman's Medical College for seventeen years. He was Secretary of the Academy of Medicine for several successive terms, and was one of the organizers of the American Public Health Association. He was also a life member of the New York Historical Society, honorary member of the New Jersey Historical Society, a director in the Oratorio Society, and one of the Board of Managers of the Society for Improving the Condition of the Poor.

Dr. Janes was one of the veteran sanitarians of this country, and has left his impress on many of the best sanitary laws now in force, and although his life was a useful one in many other spheres of action, still he will be especially remembered for what he has contributed to sanitary science.

W. B. MATSON, M.D.

Dr. Matson was born at Schodack Landing, Rensselaer county, N. Y., in 1853 and graduated from the State normal school at Albany. He afterward taught school for a short time in the central part of

the state. He studied medicine, graduating from Bellevue Hospital in 1876. He was at St. Peter's Hospital for nearly two years, serving both on the medical and surgical staff. With his older brother, Dr. Nathaniel Matson, he entered into private practice in this city in 1878. During the winter of 1891–92 his health began to fail, commencing with sciatic trouble and followed by an aggravated catarrhal grip. His friends became alarmed so that he was advised in April last to give up his practice and go to the Catskills, where during the summer he seemed to gain strength. In November he went to Elko, S. C., hoping that the change would be beneficial. His death occurred at Elko, March 10, 1893. His remains were taken to Schodack for interment.

WILLIAM H. RANDOLPH, M.D.

The death of Dr. Randolph occurred in Brooklyn on March 17, at his home, 179 Herkimer Street. He was graduated at the University of Michigan, in 1862, and has practiced many years in this city, where he has stood in the front rank of his profession, respected and beloved not only by his patients, but also by all who knew him well.

CORRESPONDENCE.

MENSTRUATION AND OVULATION IN THE LIGHT OF ABDOMINAL SURGERY.

To the Editors of The Brooklyn Medical Journal.

I sent copies of your journal of January 1893, containing a paper by me on the above subject, to some of the authors referred to therein, asking them for criticisms or any new facts they might have. I enclose their replies, thinking they would be of interest to your readers.

Very truly,

J. H. Raymond.

47 East 34th Street,
New York, Jan. 29, 1893.

I read the "Ovulation and Menstruation" paper with great interest. I have no opinions on the subject worthy of publication. I have been in the habit of teaching that menstruation is the end

of the periodic preparation that takes place in the uterus for the reception of the ovum (fertilized): that the rupture of the ripened Graafian follicle most frequently coincides with the menstrual congestion and may take place either before or subsequent to the flow. A Graafian follicle, however, may unquestionably rupture at any time—I believe Bischoff noted all the exceptions that have since been observed. He was careful to avoid the proposition that ovulation and menstruation are in relation of cause and effect. I removed some time since both ovaries from a patient to arrest the menstrual flow. I did my work with great care, and was surprised that menstruation continued. Subsequently she was again operated upon by Dr. Tuttle, who found remnants of ovarian tissue in one of the pedicles.

Very sincerely yours,

W. T. Lusk.

1334 East Eighth Street,
Kansas City, Mo., Jan. 7, 1893.

I have just read, with much pleasure, your article on menstruation and ovulation. In the main it quite agrees with my own ideas, but in one or two points I must beg to take exception to its statements. You assert: "Everyone knows that if there is a time when intercourse does not and naturally will not take place it is during menstruation." I have had under my care a number of women who insist upon coition during menstruation because it is the only time during the whole month when enjoyment of the sexual act is really intense. And among negroes it is the custom to continue copulation during menstruation just the same as at other times unless the female is afraid of being "caught"—that is, I mean, among the negroes met in dispensary work; whether or not this is true of colored people elsewhere I know not.

I have "spayed" a good many animals, for experimental purposes, and have removed a considerable number of ovaries from the human female, for various purposes, even for hysteria and epilepsy. I have taken them before, during and after, menstruation and have *learned* several things and have *guessed* at many more. Among the latter is: that the idea that the fimbriated extremity of the tube "rises up and grasps the ovary" is a pure "imaginative fact." I do not believe the fimbriæ ever touch the ovary except in case of disease. My own opinion (at present) is that ovulation is a pretty constant occurrence, *i.e.*, a fully developed ovum, ready for impregnation, is *always* on hand waiting for business; the Fallopian tube is the place where menstruation originates; in healthy uterus and

tubes the spermatozoa go up the uterus to the minute opening of the tubes, enter it and impregnate the ovum there waiting; the uterine extremity of the tube is closed (by valve-like opening) and is only opened by the outward flow of fluid—hence conception occurs only near the time of menstruation, though ovulation goes on steadily and a "ripe" ovum may be constantly lying in the fimbriated extremity, having "dropped" from the ovary when mature. Though ovulation has long since begun, the development of the tube is not complete until the tenth to sixteenth year; if the ovaries are destroyed prior to that time the tubes never develop; if the ovaries be removed *after* the tubes have set up their function of menstruating and the tubes be left menstruation will continue. If the tubes are removed and the healthy ovaries left—*will* menstruation cease? I have several times been tempted to try the experiment, because I have repeatedly operated for tubal disease where the ovary appeared normal.

This I do *know:* I can remove the ovaries and *part* of the tubes in such a way as to have menstruation continue though ovulation is forever stopped. So sure of this am I that in preparing for a section I invariably ask the woman if she desires me to check her menstruation or not. If I wish to be *sure* that menstruation will be checked I carefully include the corner of the uterus in my ligature and cut off as close to the knot as is possible, and then cauterize the stump with pure carbolic acid; if much of the tube be left the flow will continue.

I have under observation a woman from whom the ovaries were removed some four years ago. I *know* there was not the slightest trace of ovarian tissue left in her pelvis; but a considerable portion of the tubes were left and she is as regularly "unwell" as before the operation; and desperately passionate—which has nothing to do with the case.

Sincerely yours,

EMORY LANPHEAR.

PHYSIOLOGICAL LABORATORY, MCGILL COLLEGE.
Montreal, February 6, 1893.

The paper on the above subject published in THE BROOKLYN MEDICAL JOURNAL, in which you do me the honor of quoting from my "Animal Physiology," together with a report of the discussion by distinguished members of the profession that followed its reading, interests me largely because it shows an attempt to reach a sound physiology and proves that the profession is awakening to a

conviction of the importance of knowing the normal if the abnormal is to be appreciated.

While, however, the paper and discussion call attention to some facts not generally recognized, I must still hold that the account given in my own and other works of physiology is still true for the great mass of human females.

Gynæcologists and others who deal with the abnormal woman must not reason from her to the average human female. The case seems to me to have been well put by Dr. Chase during the discussion. I cannot agree with the statement that "the evidence is conclusive that rut in the lower animals and menstruation in the human female are entirely distinct." On the contrary I believe the more closely we compare the more will we learn that man's likeness to the lower animals is greater than his differences, speaking generally. The study of man apart from other animals has been the greatest drawback in getting sound and broad views of his nature, physical and other, and this I have in some measure attempted to remedy in my work on physiology which is theory but somewhat comparative.

The weakness in your theories seems to me to lie in the over-generalization; that you apply what holds for only a limited number of cases to the whole race.

I regret that the pressure of other work at the present time prevents me doing more than expressing a mere opinion. Though I cannot agree wholly with your views I appreciate the good your paper is calculated to do; and if you can advance sufficient evidence I am ready to change my opinions on this or any other subject.

Truly yours,

Wesley Mills.

48 Queen Anne Street, Cavendish Square, W.
London, Feb. 3, 1893.

Thanks for your copy of the Journal containing your paper on menstruation. I have nothing, at present, to add: my later observations in every way confirm my previous statements. I am glad you are interested in this question. Yours very truly,

J. Bland Sutton.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society's Building, 356 Bridge Street, on Thursday evening, March 23, 1893, at eight o'clock.

The President, Dr. John C. Shaw, in the Chair.

There were about twenty-five members present.

The minutes of the February meeting were read and approved.

The Council reported favorably upon the following applicants and recommended that they be elected to membership :

Drs. E. S. Bishop, H. R. Maine, R. W. Westbrook, A. Arbona, D. De Waltoff, Wm. C. Gardner, E. H. Wilson, C. G. Koehler, W. B. Waterman, N. H. Hudson, G. F. Maddock, W. S. Simmons, J. T. Gallagher, Jas. S. Waterman, Herman C. Riggs, Vincent Gomez, Wm. J. Pennington, Henry A. Higley, E. C. Branch, H. M. Clapp.

The Secretary presented the following applications for membership :

Dr. J. C. Thoms, Hicks Street, cor. Middaugh, L. I. C. H., 1890; proposed by Dr. C. F. Barber; Dr. J. M. Winfield.

Dr. Edward C. Cornwall, 15 Halsey Street, P. & S., N. Y., 1890 ; proposed by Dr. Frederick J. Shoop; Dr. D. Myerle.

Dr. Arthur R. Jarrett, 92 Halsey Street, L. I. C. H., 1879; proposed by Dr. J. H. Raymond; Dr. Geo. McNaughton.

Dr. Maximillian F. C. Drescher, 281 Eleventh Street, L. I. C. H., 1891; proposed by Dr. J. H. Raymond; Dr. Geo. McNaughton.

Dr. Archibald Murray, 128 Willow Street, Bellevue Med. Coll., 1889; proposed by Dr. J. H. Raymond; Dr. Geo. McNaughton.

Dr. Louis Conrad, 136 So. Ninth Street, Univ. of N. Y., 1887; proposed by Dr. W. A. De Long; Dr. P. V. Burnett.

Dr. Jos. Edgar Wells, 410 Clinton Street, Jefferson Med. Coll., 1887; proposed by Dr. John Byrne; Dr. John C. MacEvitt.

Dr. James MacEvitt, 407 Clinton Street, L. I. C. H., 1891; proposed by Dr. John Byrne; Dr. John C. MacEvitt.

Dr. Arthur Rogers Harris, 74 Sands Street, L. I. C. H., 1892 ; proposed by Dr. J. H. Raymond; Dr. Geo. McNaughton.

Dr. Fredk. J. Wood, 150 Washington Ave., P. & S., N. Y. ; proposed by Dr. C. F. Barber ; Dr. J. H. Raymond.

For Corresponding Membership.

Dr. Geo. R. Barns, Harriman, Tennessee, L. I. C. H., 1892; proposed by Dr. David Myerle.

Dr. Charles A. Oliver, 1507 Locust Street, Phila., Pa., Univ. of Pa., 1876; proposed by Dr. Wm. Browning; Dr. John C. Shaw.

The Council reported the resignation of Dr. E. S. Holt, on account of removal from the city, and recommended that it be accepted and placed on the non-resident list; also the resignation of Dr. George Wieber, the acceptance of which they recommended.

Dr. Raymond moved that the resignations be accepted and that the name of Dr. E. S. Holt be placed on the non-resident list. Seconded and carried; so ordered.

The following having been favorably reported upon by Council were declared elected to membership: Drs. H. E. Fraser, H. S. Petit, Wm. Kinne, Charles A. Smith, Wm. E. Sullivan, W. H. Rankin, Edward E. Baker, J. Elliott Langstaff, F. G. Winter, A. J. Blanchard.

SCIENTIFIC BUSINESS.

The Chair introduced the speakers of the evening, Professors H. H. Rusby and R. W. Wilcox, who presented papers entitled: "A Collective Investigation of Cocillana." (1.) Botany and Pharmacognosy of; by Prof. H. H. Rusby, M.D. (2.) Therapeutics of; by Prof. R. W. Wilcox, M.D.

Discussion by Drs. Eccles, Kent, Raymond, and Macumber.

On motion of Dr. Eccles, a vote of thanks was tendered to Professors Rusby and Wilcox for their kindness in presenting the above papers.

The Secretary stated that there were a number of gentlemen whose credentials had been passed upon by Council and who now desired to complete their membership, but that more than three months having elapsed since such approval, the By-Laws prevented them from qualifying at the present time. He suggested that the By-Laws be suspended to admit of the qualification of these gentlemen.

On motion of Dr. Evans, seconded by Dr. Eccles, Sections 4 and 5, of Chapter 15 of the By-Laws were suspended for the above purpose.

There being no further business, the meeting adjourned.

D. MYERLE,
Secretary.

THE BROOKLYN GYNÆCOLOGICAL SOCIETY.

Meeting of October 4, 1892.

Dr. L. Grant Baldwin presented an almost perfect specimen of a cast of the uterus, and gave the following history of the case.

Patient about twenty-five years old; married six years, mother of one child four-and-a-half years old; menstrual history has always been good as far as could be ascertained, last menstruated in June. In August she was traveling with her husband, and on the 15th while on a train she was taken "car sick," followed by very severe pain in the right side. She left the train and stopped at some place in Jersey, where the doctor told her she had peritonitis. In three or four days she was so far recovered that she returned home and I saw her on Sunday, the 20th of August for Dr. A. W. Ford, who was out of town, but had seen her previously that morning. She was taken with the same crampy pains as before. She was then in a condition of collapse, but her pain had previously been controlled by hypodermic injections of morphine. She rallied from this and in two or three weeks was able to go out. At the end of that time she was again seized with pain in the right side, more severe and requiring more morphine to control than the previous attacks, and with this a slight vaginal discharge, black and tarry in consistency and lasting for a few hours. Her pain was again controlled with morphine and she again got better, though for two or three weeks she occasionally had some slight pain in the abdomen. A week ago to-night, September 25th, she was preparing to go to the theatre with her husband, but not feeling very well decided not to go. About nine o'clock she was taken with pain in her side more severe than any of the former attacks but of the same character. Dr. Ford gave her a grain of morphine inside of half an hour, hypodermically, in order to obtain relief. I saw her in consultation with him on the following Monday night, when her condition was very bad, pulse 140, no elevation of temperature: she was pale, waxy, cold, and in every way she looked as if dissolution was pretty sure to follow before a great while. He was stimulating and nourishing her per rectum, her stomach refusing all food and medication. She was in such a condition at this time that I did not think any extended examination was justifiable, and all I made out was that there was a mass in the lower abdomen, whether it was the uterus or not I could not determine and advised an expectant plan of treatment. She began to improve and was getting in pretty fair condition, pulse and temperature normal, when to-day about one o'clock in the absence of the nurse she got out of bed. She had had

some slight pains in her lower abdomen for an hour previous, and while out of bed to pass water she passed this cast of the uterus. It was accompanied with no hæmorrhage and but little pain and there was no hæmorrhage afterward. I present it as a very beautiful and complete cast of the uterus, and undoubtedly a decidua of pregnancy, the gestation being ectopic and probably in the right tube. No bimanual examination was made.

Dr. Skene:—It it is evidently the decidua of pregnancy, and according to the history a case of extra-uterine gestation. I think that it is the most perfect specimen of the kind I have ever seen; these casts nearly always become broken up and are expelled in shreds.

Dr. Baldwin:—There is only one little place on the anterior surface that is not absolutely perfect, which was evidently where a very small portion of it remained. The pain was all over the abdomen, but centered in the right iliac fossa. She has had but little pain since the passing of the cast, and its expulsion was accompanied by but little discomfort.

Dr. Byrne:—I think the diagnosis of this case can hardly be made out without some reference to the future history of the patient, when she recovers sufficiently to permit of the usual bimanual examination to ascertain whether that tube may not have a fœtus in it. With such a perfect cast as this it is very likely she had an extra-uterine pregnancy.

Dr. Baldwin:—The only tumor which I was able to make out to-day by the abdomen, was central.

Dr. Skene:—I have never seen such a specimen whole as this. I have seen sections which if put together might make one as large as that.

Dr. Dickinson.—Among the atlases in the New York Hospital library there are a considerable number of beautiful lithographs of casts from the uterine cavity which I have been interested to study, but there is none that compares with this in perfectness, nor am I cognizant of any reproduction in black and white that rivals it. Zweifel, in his recent volume of Vorlesungen, has a colored plate of a cast resembling it somewhat. With the doctor's permission, I should be pleased to make a drawing of it, in order to show plainly the differences between the decidua of extra-uterine pregnancy and the casts of membranous dysmenorrhœa.

The Chair asked Dr. Baldwin to report the future history of the case, which is as follows :

Dr. Jewett saw the patient the next day and agreed with the diagnosis and advised non-interference. The patient made an uninterrupted recovery, six weeks later declaring she had never felt

better in her life. As if to confirm the diagnosis, four weeks after the date of this report a profuse secretion of milk appeared. At this

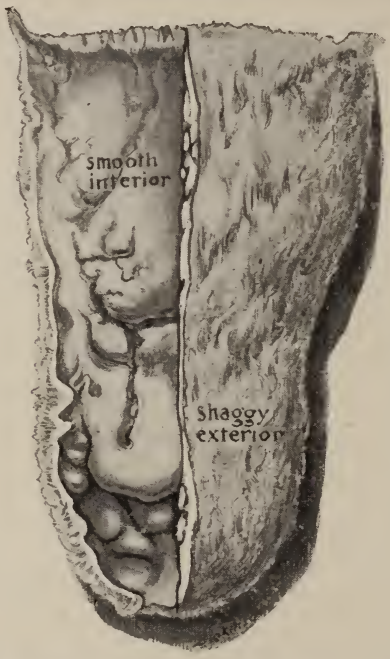


FIG. 1. An entire cast from the uterus in this case of extra-uterine pregnancy. One-fourth of the cast has been cut away to show the interior.



FIG. 2. Membranous dysmenorrhœa; two sides of half-membrane from a multipara. From the body of the uterus. Some of the puckering is due to alcohol. [Skene.]

date Dec. 10, '92, the patient is in perfect health. The accompanying very excellent drawings were made by Dr. Dickinson and very clearly show the difference between this specimen and the casts of membranous dysmenorrhœa.



FIG. 3. Membranous dysmenorrhœa; half-membrane from a virgin. [Skene.]



FIG. 4. Membranous dysmenorrhœa. Cast from a virgin who repeatedly passed specimens like the above.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

At a stated meeting, held January 23, 1893, Dr. Simon Baruch read a paper on the subject, "Practical Data on the Application of Water in Some Intractable Diseases."

He said the chief, though not the only aim of hydrotherapy, is to stimulate or give tone to the nerve centres. That the applica-

tion of water to the cutaneous surface stimulates the nerve centres is an elementary physiological fact, proved by a dash of cold water removing syncope.

A brief shock to the sensory peripheral nerves followed by reaction is transmitted to the central nervous system, thence to the respiration, deepening it and the circulation, restoring the failing pulse; thus the temporarily dormant vital powers receive a stimulus whose appreciation must convince the most sceptical by its very simplicity. That we have in the external use of water a therapeutic agent so flexible that it may be adapted to the most varying types and forms of disease, as well as the methods of adapting it to varying conditions.

INTENSE CHLOROSIS.

Miss H., æt. twenty, ill two years, under constant treatment by gynecologists in Harrisburg, Baltimore and Philadelphia, was referred by Dr. T. G. Thomas June 8, 1892, for hydriatic treatment with a diagnosis of chlorosis of aggravated type. Local, medical and institution treatment, iron, arsenic, diet and massage, and change of air had been tried in vain. A more pallid creature could not be imagined. Appetite poor, bowels irregular, sleep disturbed, frequent (hysterical) fainting spells. The slightest exertion produced difficult breathing and rapid heart action. Menstrual flow regular and scant. Blood examined by Fleischl's hæmometer registered 31.

June 10th.—Preparatory treatment by hot air baths and douches, to educate the patient's reactive capacity was ordered. Fainting under it; a milder course was pursued. After being wrapped snugly in a long-haired woolen blanket for forty-five minutes, parts of the body were successively uncovered and splashed with water at 60°, thrown with some force with the hand. This was followed by friction, and repeated without fainting until the 16th of June, when she was placed in a hot bath (167°) with a cold compress around the head to fill the cutaneous vessels. This was followed by an ablution and later by a spray at 60°, good friction drying and general massage for fifteen minutes.

July 14th.—Same treatment has been continued, reducing the spray daily one degree.

July 30th.—This treatment had been continued, substituting rain bath for spray, until to-day she took a jet douche at 45° without flinching.

Dr. S. T. Armstrong reports: Miss H. looks quite well, eats and

sleeps well and is certainly improved since I last saw her. The comparison test indicates about 100 per cent. hæmoglobin.

This case certainly illustrates the effect of the douche in improving the nutrition and hæmatosis, and that the most feebly reacting patient may by perseverance and proper adaptation of the hydriatic procedure become accustomed to this treatment.

NERVOUS DYSPEPSIA.

Mrs. O., æt. twenty-eight, consulted me May 5, 1892, for "catarrh of the stomach," because of agonizing pains after meals. She has been living on mush and milk, and had medical treatment for several years, with diminution but not disappearance of the pains.

She is emaciated, her voice is feeble, she is depressed nad hopeless. Her wan face and prematurely old appearance bear evidence of a life of constant physical suffering. There is not the particle of the hysteric element in this case.

The diagnosis of a gastric neurosis being thus confirmed, she was ordered a mixed diet, and a general invigoration by hot air baths and douches gradually reduced. Two months' treatment restored her health. November 26, 1892, she wrote that she had gained fifteen pounds, is much stronger and feels quite grateful.

DIABETES AND OBESITY.

Failure of diet—Success of hydrotherapy.—On March 7, 1892, was consulted by Mrs. S., æt. 63, suffering from lassitude, loss of appetite, depression of spirits for several months.

Urine has 6 per cent. sugar, sp. gr. 1040; quantity for twenty-four hours, 81 ozs. Weight under 253¼ pounds. Prescribed anti-diabetic diet and systematic walking exercise. Although the former was rigid for four weeks the latter could not be accomplished because walking two blocks "put her out of breath," and exhausted her. To reduce weight and invigorate the nervous system, a carefully regulated hot air bath until free perspiration, once a week, followed by spray douche at 90° for one-half minute, and at 80° for ten seconds, and massage was ordered. Five times a week she received a tonic hydriatic procedure with the dry pack for one-half hour to fill the cutaneous vessels, followed by a general ablution at 70° and good friction.

On April 15th she had lost 61 pounds and felt able to walk six blocks twice a day.

April 22d.—Urine, sp. gr. 1045, sugar 5¼ per cent. Wet packs forty-five minutes, sheet wrung out of water at 50°, followed by

hot air bath, ten minutes at 85°, sponge ablution on back at 70°, with active friction in tub, massage fifteen minutes to increase tissue change and improve the circulation in the muscular tissues.

June.—The jet douche at 75° was added as a tonic and for contracting the muscles. The result was ability to walk four miles per diem. The diet being rigidly adhered to, a rapid decrease of sugar was evident every week from the date of the first half-mile walks.

Since July 1st she has been entirely free from sugar until the present time, frequent analysis having been made until the 1st of December, 1892. In this case the diet alone pursued for five weeks made no impression, but as soon as the patient was able to oxi ize her sugar by means of muscular exercise, improvement became pronounced. No medicinal agent could have accomplished this change in the nervous, muscular and vascular structures in so brief a time.

SEXUAL HYPOCHONDRIASIS.

M., æt. forty-seven, was referred on June 6, 1892, to the institute by Dr. S. Weir Mitchell, of Philadelphia, with a history of impotence and a sensation of water trickling down front of thighs. The hot air bath, rain baths and douches failed to make any impression.

Two other cases of sexual hypochondriasis and one of sexual neurasthenia in younger men were successfully overcome by the same treatment.

ANGINA PECTORIS.

Mr. D., æt. forty, of robust appearance, gives a history on the 24th of September, 1892, of having suffered for several months from agonizing pain in the præcordial region whenever he attempted to exercise much. He was disabled from business and much depressed; all function normal. Dr. Janeway, as consultant, diagnosed angina pectoris. Mr. D. presenting a decidedly gouty diathesis, urine loaded with uric acid, etc., he was put upon a non-meat diet and a daily wet pack for one hour, and a continuous wet compress around left side of chest; glonoin and strychnia. After three months' treatment, during which pain diminished in frequency and intensity, January 21st, reports himself entirely free from pain, although he has done more work than ever in his life and passed through the excitement of seeing his factory burned down and reconstructing it.

The soothing effect of the wet pack and its effect in promoting tissue change are well exemplified in this case.

INCIPIENT PHTHISIS.

Mr. S., æt. 26, consulted me on July 29, 1892. Looks pale, emaciated, has been losing flesh and coughing seven months, had no appetite. No hereditary element. July 31st, ordered Hydriatric Institute treatment, weighed (nude) 106½ pounds, and received a hot air bath until warm, to enhance his reactive powers, followed by a rain bath of 95°, reduced gradually to 80° for forty seconds under ten pounds pressure, gradually increased; then spray douche at fifteen pounds pressure, gradually increased to thirty pounds for four seconds at 70°. This was repeated daily. He gained 1½ pounds in ten days. Dr. E. G. Janeway pronounced him phthisical, and advised him to leave the city at once and ordered creosote. As he was improving under hydrotherapy and disliked to leave, I advised continuance.

Sept. 8th.—The hot air bath, followed by rain bath 80° to 70° and spray douche 70° to 40° have been continued until to-day, patient weighs 114 pounds, a gain of 7½ pounds.

Sept. 19th.—Hot air baths (170°) three minutes; rain bath 80° reduced to 64°, one minute from which he reacted well. Cough troublesome, spirometer test shows 190 before and 200 after treatment, which is 20 above the average for his height.

Sept. 20th.—Dr. J. S. Ely reports tubercle bacilli in small numbers.

Dec. 30th.—With occasional interruptions and losses of weight, patient has progressed well, and to-day weighs 121½ pounds, looks well, coughs but little, no temperature, and is anxious to go home.

"Although I am not as optimistic as you are regarding water treatment, I must acknowledge, that the improvement in this case is remarkable!" writes Dr. Freudenthal, who treated his larynx.

Jan. 21, 1893.—Patient is to-day almost free from cough, has good appetite and digestion, weighs 122½ pounds (a gain of sixteen pounds), and five pounds in excess of his average weight in health. Dr. Van Giesen found no tubercle bacilli in seven slides.

There having been no change made in the patient's diet, mode of life and treatment, this case is a clear illustration of the utility of judicious hydrotherapy in improving nutrition in cases that usually thwart us. Clinical evidence of its value in phthisis is accumulating so rapidly that I need only refer to the cases I reported to the State Medical Society last February, to show that phthisis offers next to nervous diseases the most fruitful field for hydrotherapy.

ADVANCED CHRONIC INTERSTITIAL NEPHRITIS.

Mr. A., æt. sixty, a foreman at a lead trap factory applied May, 1891. Has suffered from lead colic and severe headaches several years ago. Pronounced swelling of feet and ankles, breathlessness on exertion, morning nausea, headache, double vision and vertigo; urine with a large portion of albumen, abundance of hyaline casts; sp. gr. 1,020. Diagnosis, chronic interstitial nephritis. Ordered 10 grains of calomel, tartrate potass-lemonade, one minim of one per cent. solution glonoin, every three hours until flushed. He also received hot blanket-packs of one hour, morning and evening. Urine is reduced to 22 ounces. Dr. Edward S. Peck diagnosed homonymous diplopia, amblyopia and albuminuric retinitis. Blanket-packs were given once a day, by means of a blanket thoroughly wrung out of hot water laid upon another blanket, patient was snugly tucked into the hot blanket and afterwards covered by other blankets. He remained in this one hour or more until he perspired very freely. Gradual improvement ensued. In September his urine presented but a trace of albumen, he was free from all unpleasant symptoms, was strong and had resumed his duties at the factory, where he worked without interruption during the entire winter, until August, 1892. He went to Hackensack, N. J., and was attacked on the 16th of August by apoplexy and hemiplegia, from which he died.

Dr. St. John states that prior to this illness the urine presented no casts and but little albumen.

Cases like this should give us confidence in the value of hydrotherapy in milder cases of Bright's disease.

In the Montefiore Home such cases are not infrequent.

SUBACUTE NEPHRITIS—INTENSE CATARRHAL JAUNDICE.

Mrs. S. consulted me on June 29, 1892, being pregnant eight months. Albumen and granular casts in urine indicate nephritis of pregnancy. Two days later she was attacked by convulsions, during which I delivered her with forceps of a child which has continued to thrive. She remained comatose twenty-four hours, the urine being reduced to six ounces. Calomel, hot blanket packs and nitro-glycerin "unlocked" the kidneys. The urine remained albuminous and scant for several weeks. Her recovery has been slow but steady under a non-meat diet, digitalis, nitro-glycerin, etc. Urine was still albuminous when I was compelled to leave her on the 5th of September. She was now kindly cared for by Dr. A. H. Smith, who sent her to me on the 26th of September, stating that she appears to be a case well adapted for hydrotherapy.

I found Mrs. S. in a most distressing condition from constant itching of the entire surface; her eyes and skin had a yellowish tinge; bowels constipated, stools clay-colored; no appetite; urine 30 to 36 ounces daily by careful measurement, and decidedly albuminous. She was now ordered a daily wet pack for three-quarters of an hour, sheet wrung out of water at 70°, reduced daily two degrees, followed by rapid ablution with water at 60°, reduced daily one degree; also an enema of 1½ quarts of water every day at 80°, reduced daily five degrees, until 60° was reached. Carlsbad salts twice a week; and a non-meat diet. She passed twelve ounces of urine during the first four hours after the first pack. It continued to increase daily until the quantity reached far beyond the normal. This treatment was continued until November 1. The last albuminous urine (a trace) is reported for October 11th, at which time a few granular casts were still present.

Patient has been discharged several weeks with allowance of meat every other day. She is perfectly well.

HYSTERIA AND EPILEPSY.

July 19, 1892.—A. F., æt. fifteen, was brought to the Hydriatric Institute, by his father, who says on the 31st of March, 1892, on the day of his daughter's burial, the boy fainted. Ten days later he fainted in school and again two days later. Dr. S. P. Cahen diagnosed the attack as "a form of epilepsy." The boy was kept from school and put on bromide potassium. The attacks becoming more frequent, Dr. George W. Jacoby was called in consultation; the same treatment was continued. He continued to have attacks every day and very often twice a day, lasting from five to ten minutes. Dr. Jacoby was again called in consultation and made an unfavorable prognosis. Several neighboring physicians who had been called during the attacks gave him hypodermics of morphine. Face pale, covered with acne, eyes restless, hand tremulous, gait unsteady, appetite fair but capricious, gastric oppression after meals. Patient appeared to be brominized.

Treatment.—Resorcin 3 grs. in one-half pint of hot water before meals. Wet pack, sheet wrung out of water at 70°, reduced daily two degrees, followed by rain bath 90°, 25 pounds pressure, gradually reduced during 30 seconds 75°.

Sept. 30th.—Patient has called on me several times, reporting steady improvement. He was discharged cured. Up to this date, Jan. 1, 1893, no further attacks have appeared.

If the few clinical histories here offered will induce practi-

tioners to utilize water more frequently as one of their remedies, I will be content.

DISCUSSION.

Dr. Mary Putnam-Jacobi said that she was delighted that so much attention was now being paid to hydrotherapy in New York, and that she had read with the greatest interest Dr. Baruch's various contributions to the subject. It was curious that German physicians, who considered water useful in serious and intractable diseases, should regard it as dangerous in ordinary hygiene. She cited the remark of Uffleman, who recommended, with caution, that children should have the face and neck washed every day, seemed never to have occurred to him. In another treatise by a German author, it is stated to be exceedingly good to take a course of cold water treatment a few weeks, but it would be too exciting to the nervous system to continue it permanently. Many persons seem to think that the taking of a cold bath is something one must gird himself up for. She remembered a physician once objecting to her recommendation of it, because he had himself been painfully affected by the cold douche. Dr. Baruch seems to have had great influence over the young lady he mentions to have induced her to continue the treatment, though she fainted. In her own experience patients could not be readily induced to continue if they felt unpleasant after the first treatment. It seemed to her that where patients felt badly upon beginning the cold water treatment, it was because the vaso-motor system of nerves was excited out of proportion to the excitation which should be conveyed to the spinal nerve centres. It was an elementary truth to which the author had referred, that the chief result of the application of cold water to the skin was great stimulation to the nerve centres and dilatation of the cutaneous vessels, but in some instances, instead of there being excitation of the centres in the cerebro-spinal system, the excitation was expended upon the vaso-motor system, producing contraction of the blood-vessels and diminished blood supply, so that the patient would remain cold and chilly and the surface pale. There was apparently also contraction of the blood-vessels of the brain, which might account for the intensely wretched feeling which the patient sometimes suffers.

It was evidently improper in such cases to begin with cold applications ; one must use heat as Dr. Baruch rightly insists. When the blood-vessels on the surface were dilated by heat, there was such stimulation of cerebro-spinal nerves that they were not exhausted by the subsequent application of cold.

Dr. Peterson said that he was in entire accord with Dr. Baruch. He was particularly in favor of hydrotherapy in the treatment of mental and nervous diseases. In the insomnia of melancholia we have no other agent quite as efficient as the prolonged warm bath. In the intense motor and maniacal excitement of acute mania, there was no agent so useful as the hot wet pack. He had found it to far surpass, in his experience, the old treatment by means of the straight-jacket and injections of hyoscyamine. In many chronic nervous disorders, such as spinal affections, chorea, epilepsy, and hysterical conditions, it was an efficient means of alleviating and sometimes curing the disorders.

Dr. Rockwell said that there was much useless drugging and that the superiority of many rational methods of treatment could be demonstrated by their permanence.

Hot and cold water, exercise and the like, had been known since the beginning of medicine, and the more they were known the more they were appreciated. He quite agreed with Dr. Peterson as to their value in nervous conditions. He used faradization in connection with intestinal flushing for constipation.

Dr. Ransom (Richfield Springs) had made much use of measures of this kind, and he also had found hydrotherapy very valuable in the treatment of nervous disorders. It was especially effective in cases of neurasthenia, where the cold douche relieved insomnia, increased nervous tone and aided digestion.

Dr. Baruch said that in his propaganda for hydrotherapy he has in some quarters been charged with unwarranted enthusiasm. If a conscientious proving of all remedial agents in vogue and proposed during an active and general practice of thirty years entitles a man to an opinion on therapeutics, he would reiterate with emphasis the conclusion given in Hare's System of Practical Therapeutics, that we possess in this method a valuable auxiliary to methodical treatment of many, though not all acute and chronic maladies. His observations at the Montefiore Home, which receives only incurable cases, demonstrate this fact. Domestic treatment will suffice in most cases, but if these fail a methodical treatment under an expert hydrotherapeutist may be of advantage to the patient, because much depends upon the reactive capacity of each individual and only systematic observations can determine the most useful procedure in each case.

He has this evening only endeavored to show that it is useful in many desperate cases, and that its flexibility renders it applicable even in the most feeble patients and that the results are strikingly favorable.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

PASSAGE OF TYPHOID BACILLI FROM THE MOTHER TO THE FŒTUS.

Frascani Vittorio (Nouv. Arch. d. Obstet. et de Gyn., Vol. viii., No. 9). Experimental researches and clinical observations show that the pathogenic micro-organisms, including the bacillus of typhoid fever, may pass from the mother to the fœtus through the placenta. With reference to this question Vittorio has made observations on three cases of gravid women affected with typhoid at the maternity of Pisa. The first at the end of a month after the invasion of the fever was delivered prematurely of a fœtus which lived only twenty-four hours. The placenta presented multiple apoplexies. In the intestines of the fœtus was found a tumefaction of Peyer patches but no bacilli. The culture gave a bacillus having more the character of the bacillus coli communis than of the bacillus of typhoid.

The second woman was delivered of a dead macerated child. The cultures gave the typhoid bacillus. In this case also the placenta presented numerous apoplexies and thromboses.

The third woman was delivered of a boy who lived twenty hours. The cultures of the blood and spleen of the fœtus remained negative. The placenta presented the bacillus of typhoid. Gravid animals were inoculated with bouillon cultures made from the placenta. In all the cases abortion, and in three death of the mother, resulted. The author experimented also with the injection of attenuated bouillon and found uniformly the bacillus of typhoid in the viscera of the animals and in the pus of the abscesses. He grants, without as yet being able to demonstrate it, that the passage of the typhoid bacillus through the placenta is rendered more possible by abnormal conditions of this organ such as thromboses, and hæmorrhages.

FŒTO-PLACENTAL CIRCULATION DURING DELIVERY.

Cariglia (Nouv. Arch. d. Obstet. et de Gyn., Vol. vii., No. 9) has shown by experimental observation that the afflux of blood, which the fœtus receives from the placenta directly after the birth, is caused by the contraction and retraction of the uterus. His conclusions are:

1. The blood passes to the fœtus even in the absence of respiratory movements.

2. Even after respiration is established, the weight of the child varies with the uterine contraction and retraction.

3. In premature expulsion of the placenta the child loses weight.

4. The pressure in the vena cava is not sufficient to prevent the passage of the blood from the placenta to the child. This resistance moreover is diminished by respiration. Since a diminution in the weight of the child is noted during the first moments after birth, immediate ligature of the cord deprives the new born infant not only of the reserve blood but of a part of its own.

ECTOPIC GESTATION.

Pinard (Br. Med. Jour., Nov. 12, '92) reports twelve cases of extra-uterine pregnancy in which the fœtus died, and operation was performed after the sixth month. Eleven recovered. In only one case was there any history of previous disease of the genital tract. In all abnormal symptoms appeared before the end of the first month, due to peritonitis and to intestinal and vesical irritation. In most of the cases no decidua was passed. Pinard declares that he has noticed strong contractions of the wall of the sac, as in a normal gravid uterus.

The fœtal sac is in many cases more accessible from the vagina than from the abdomen. Two out of Pinard's twelve cases were elytrotomies, the remainder being abdominal sections.

The surgeon is by no means justified in removing the sac in all cases. The indication is what the French conveniently call simple exteriorisation of the cyst cavity.

Rupture of the sac late in pregnancy may not cause either peritonitis or hæmorrhage. The intestines may tolerate the presence of a fœtus free in the abdominal cavity. In Pinard's opinion after the fœtus has been three months dead the placenta may safely be removed complete during the operation. Death of the fœtus may involve grave, acute symptoms, as in Pinard's fatal case, where there was urticaria and suppuration, rupture of the cyst and peritonitis.

GYNÆCOLOGY.

BY WALTER B. CHASE, M.D.

CERVICITIS.

Dr. Bedford Brown (Annals of Gynæcology and Pediatrics, December 1893.) classifies cervicitis into four well-defined forms—differing in etiology, pathology, results and treatment.

These forms he designates as simple, septic, traumatic, and specific. He says "I am impressed with the opinion that all of those pathological phenomena observed in the diseased cervix, as endometritis, hyperæmia, hyperplasia, engorgement, erosion or ulceration are due originally to inflammatory action as a basis of morbific influence, arising from simple septic, traumatic or specific causes."

Simple cervicitis is always from non-infective causes, as first exposure to cold during menstruation. Second, ungratified sexual emotion—such as may occur during prolonged engagements. Third, tight lacing, by which the cervix is forced downward upon the pelvic floor and exposed to constant friction.

Pain is often referred to the bladder or lower rectum. Internal hæmorrhoids often result as also may hæmorrhages or metrorrhagia. Pelvic lymph-adenitis, endometritis, salpingitis, pelvic peritonitis or abscess are never caused by simple cervicitis.

Best results follow the use on alternate days of glycerine or boro-glycerine tampon, and the application of Churchill's tr. iodine. When the uterus is low down the persistent use of the tampons will do much to return it. Where there are adhesions, graduated pessaries should be used.

Septic cervicitis is due to the absorption of putrescent material—such as fæces, of placenta, threads of membrane or coagula. It often follows accidental abortion. The uterine lymphatics may carry the poison into the tissues of the pelvis with serious results. This form of cervicitis is cervical lymphangitis. The poison may travel through the cavity of the uterus and tubes; in the early stages the cervix is swollen, tender, and hot. Above will be found a tender, nodular prominence, resembling glandular tissue. The induration continues until the cellular tissue, veins, lymphatic vessels, and glands become involved.

A hot carbolized douche may be used every day followed by a tampon of glycerine and iodoform. A pill of calcium sulphide

with quinine or cinchonidia, three times daily has been beneficial. In more chronic cases small doses of the biniodide of mercury act well as an alterative.

Traumatic cervicitis arises from injuries, especially those incurred during labor or abortion, lacerations, fissures or contusions of the cervical tissues may be found on close examination. They are obstinate and difficult to heal. A fissure may be detected by passing a silver probe which gives sudden, acute, pain. These wounds cause engorgement and inflammation. Best treated by using alternately, glycerine tampons, and pure tincture of iodine, care being taken that the fissure is reached by the iodine.

Specific cervicitis may be divided into two kinds, syphilitic and gonorrhœal. Either kind may be found in chaste as well as in unchaste females.

Gonorrhœal cervicitis is marked by an exceedingly acute inflammation. The mucous membrane of both the vagina and uterus, as well as the sub-mucous and intestinal tissues of the latter are involved. The *entire* mucous surface pours forth pus freely. An unmanageable form of chronic inflammation remains behind. Abscess may result. The whole pelvic structure may in time become involved.

The glycerine and iodoform may therefore be used alternately with applications of nitrate of silver (℥ ss to ℥ i.) applied over the whole cervix and vagina.

Syphilitic cervicitis is attended by a peculiar form of inflammation. After the disappearance of the chancre there remains a congested cervix without secretion. Or the cervix may be attacked by secondary syphilis, causing protracted subacute inflammation and hyperplasia. In can be cured by no non-specific treatment. Local treatment is useless without the internal administration of mercury and the iodides.

THE RELATION OF THE MENOPAUSE TO CERTAIN COINCIDENT DISORDERS IN WOMEN.

Bigg (Merck's Bulletin, Jan., '93); conclusions:

1. In women whose nutrition has uniformly approximated the normal standard, and who come to this period unhampered by pre-existing ailments, the final cessation of menstruation occurs without material disturbance of the functional harmony, and is often of cosmetic advantage.

2. The association of morbid conditions with the menopause is *accidental*—and the result, usually, of *antecedent* causes, especially of unphysiological living.

3. The influence of *perfect nutrition and natural living* during the pre-menstrual and adolescent years, upon the after-life of woman, is of the most salutary and far-reaching kind. Hence:

4. It is of the utmost importance that medical men should unceasingly impress this fact upon the mothers of girls, and initiate *a natural development* of their physical organism by the use of wholesome and nutritious diet at regular intervals, by abundance of out-door exercise, by the avoidance of late hours, and by a system of school-instruction which shall be graduated to a rational output of mental energy by the adolescent faculties.

PRACTICE OF MEDICINE.

BY HENRY CONKLING, M.D.,

Pathologist and Assistant Visiting Physician to St. Peter's Hospital.

DEATH BY POISONING.

A recent editorial in the British Medical Journal treats of the above subject, the matter for discussion being taken from the Registrar-General's report for 1891. In that year there were, in England and Wales, 412 deaths from poison which had been taken by accident or from some remedy, such as "soothing syrup," which, given as a medicine, has produced fatal results. Of this number 114 were from opium in some form. Carbolic acid caused 62 deaths. Aconite, belladonna, cocaine, and strychnine gave 19 deaths. There were 17 cases by the mineral acids. Eight deaths were from arsenic, 7 from chloral, 2 from oxalic acid. The remainder were not classified.

The number of cases of suicide by poison was 327. Some preparation of opium caused 56 deaths. Carbolic acid was taken by 63 persons; 28 took some one of the mineral acids. Prussic acid was used in 36 cases; arsenic in 6, while oxalic acid caused 20 deaths. Aconite and the three drugs mentioned above were used in 27 cases.

Of these suicides 178 were males and 149 females.

The editorial writer comments on the lax laws which govern the sale of poisons and all remedies, patent medicines among them, which contain poisons, especially opium. It is further recommended that the sale of some of the acids should come under the rules applied to other drugs.

MYXŒDEMA.

In 1873 Sir Wm. Gull published a paper on Cretinism, giving a full account of the disease. Four years later Dr. Ord described more fully the disease, giving it the name *myxœdema*, from the large amount of mucin found in the thyroid gland. These two papers remained for some time the chief literature on the subject of diseases of the thyroid. Dr. Ord lectured on a number of cases in his wards at St. Thomas', in London. For the past year or more Mr. Horsley of University College Hospital has been experimenting on the same subject. The literature is greatly increasing. One of the later papers is by Dr. Barrow of Liverpool in the Medico-Chirurgical Journal.

In myxœdema there is an increase in weight; a hard cutaneous swelling, which does not pit; the elasticity of the skin is gone; the eyelids are swollen, having a waxy appearance. The upper lid droops. Facial lines are obliterated. The skin is dry and inactive; the hair falls out and a hæmorrhagic tendency is sometimes present. There is no fever. The mind is dull; speech is slow. Trembling of the muscles may exist; cold weather aggravates the symptoms. Patients frequently look idiotic.

The thyroid is the seat of the disease, suffering from a distinct change and not a simple degeneration. It is atrophied and has an excess of connective tissue. Both its tissue and cells are pushed and pressed upon by the new material. The sweat glands in the skin atrophy. The lymph spaces are increased. Mucin is in excess in certain tissues. Interstitial change may be present in other organs.

The disease may be produced in animals.

Three years ago transplanting the thyroid began to be practiced. It was found that upon removing one lobe of the gland in a cat, and placing it between the abdominal aponeurosis and the peritonæum the health was retained (the other lobe having been removed). This lobe in its new position becomes vascularized. If it be removed the animal becomes diseased. Experiment soon showed that when the juice of the thyroid gland in a dog was given to a patient with myxœdema, the disease was controlled. Numerous cases have been thus treated. Dr. Barrow in 1892 (Summer) had two patients on thyroid juice from a sheep. One took the juice from an entire lobe; the other one-third as much. These amounts were given in a week's time.

It is now supposed that the function of the thyroid gland is destroying certain poisons which develop in the body. Myxœdema is therefore an auto-infective disease.

ON TOBACCO.

Brodnax (Virginia Medical Monthly) gives some curious statisics, while not collected in a scientific manner are still interesting. Ninety-four (94) men were found who used tobacco. Their ages were from 18 to 78 years. In 90 of these certain of the special senses were affected, smell, taste, and hearing were imperfect; over 80 suffered from cephalalgia; 89 had some gastric disturbance more or less severe. In a large number some palpitation and irregularity in the heart's action were present; 52 had some motor disturbance, and 5 were afflicted with paralysis agitans. The minor of these complaints were removed by abstaining from tobacco; the more severe conditions were improved.

The author believes tobacco to be a sedative. It excites intestinal action. The interesting fact is recorded that smokers do not have intestinal parasites. That age does not cause the diminution in special sense is shown by comparison. A smoker could not taste $^{1}/_{30000}$ of a grain of strychnia in solution; could not detect odors; could not hear certain sounds in the distance. Those of the same age who did not use tobacco had acute hearing, tasting, and smelling.

LEUCOCYTHÆMIA.

Caton of Liverpool has recently recorded one of the best illustrations of the above disease in medical literature. The paper while short, is a classic. It is found in the Medico-Chirurgical Journal.

The patient had had ague, dysentery, and pleurisy at different times. When first seen there was loss of strength, emaciation, and dyspnœa. These had existed for some months. A large mass was found commencing in the left hypochondrium, going toward the umbilicus. It moved as patient breathed; a friction sound was produced; its edges were notched. The examination of the blood showed an increase in white-corpuscles, the proportion was 1 in 6. The eosinophile globules were not increased. There was 35 per cent. of hæmoglobin. There was occasional nose bleed. The retina was congested. The cardiac dulness was increased. There was also disturbance in the respiratory and nervous systems.

The patient improved greatly on arsenic and quinine during a month's treatment, when he left the hospital. On his return four months later his condition was worse. He died in two months.

On post-mortem examination the spleen was found to weigh four and a half pounds; infarcts were present. The liver was greatly increased in size. As no mention is made of the heart one

is tempted to believe that the area of dulness spoken of above was a mere continuance of cardiac dulness into hepatic and splenic dulness.

In leucocythæmia there is a decrease in red and an increase in white-corpuscles. The author thinks that this change may come from a non-conversion of colorless hæmatoblasts with red globules. If there be no disease in the spleen, red marrow, or lymphatic glands (blood making organs) it is not improbable that some disease of the blood itself is the cause of the change.

PARALDEHYDE—CARBOLIC ACID.

Mackie in the British Medical Journal refers to a series of cases of asthma in which paraldehyde stopped the spasm and produced sleep. Some of the cases were of long standing. Thirty minims were given every hour or half hour until relief came. Three doses were generally sufficient. In children a smaller dose should be given.

In the same journal Dr. Arthur Wiglesworth gives the result of twelve years' experience with carbolic acid. The preparation used was Calvert's acid (nature not stated). For a child of one year one grain is given; up to ten years one to two grains. For an adult three to five grains. The doses are given every two hours, day and night. The object is to "carbolize" the patient. This comes when the urine is black. Such change is not due to blood but a coloring matter (hydrochinon).

The drug should be in solution. No effect on temperature was observed. In puerperal septicæmia it has produced good results. It stops vomiting, and the author believes, from an extended use, that its internal use is the most powerful prophylactic against scarlet fever.

OPHTHALMOLOGY.

BY RICHMOND LENNOX, M.D.,

Assistant-Surgeon, Brooklyn Eye and Ear Hospital.

CONJUNCTIVAL SCARRING FOLLOWING OPHTHALMIA NEONATORUM.

Stephenson (Trans. Oph. Soc. Un. King., 1892, p. 54) describes the forms of scarring that may result from ophthalmia neonatorum. The typical form shows itself as a thin bluish white scar covering

the entire conjunctival surface of the lower lid and the fornix of the upper lid. The upper palpebral conjunctiva shows no change. The lower lid often contains peculiar crescentic linear scars, the course of which follows the contour of the lid. . The atypical form includes a number of varieties, all however different from the cicatricial changes which result from trachoma. The scarring was found in from 15 per cent. to 1.88 per cent. of a large number of children examined, occurring as might be expected with greater frequency in the children of the lower social grades. In these also complications, such as nebulæ, adherent leucoma, pyramidal cataract, nystagmus, squint, staphyloma or phthisis bulbi, are much more often met with. The author considers these scars as trustworthy evidence of preceding ophthalmia neonatorum· The almost invariable coincidence of corneal opacities and scarred lids with the pyramidal cataracts observed strengthens the inference that the cataract is the result of the corneal inflammation or perforation following ophthalmia neonatorum. The existence of conjunctival scars may also be of value in determining the ætiology of nystagmus and changes in the shape of the eye-ball.

MINUTE ANATOMY OF PYRAMIDAL CATARACT.

Collins (Trans. Oph. Soc. Un. King , 1892, p. 89) describes the changes found in six cases of pyramidal cataract of various length of development. In the earlier cases these changes consisted in localized proliferation and breaking of the epithelial cells lining the lens capsule and some disorganization of the neighboring lens fibres. These changes are probably excited by the contact of the inflammatory products in the pupil incident to corneal ulceration. Cases of longer duration showed the débris of cells and lens fibres condensed into an almost structureless mass, separated however from healthy lens fibres by a single layer of epithelial cells directly continuous with the normal lens epithelium at either side. In the cases which had existed for many years the opaque mass was very similar to that just described, but harder and somewhat calcareous. It was separated from normal fibres not only by a layer of epithelium but by a layer of hyaline capsule as well, the lens capsule apparently splitting at the periphery of the opacity into two layers, one passing in front and one behind it. Becker long ago called attention to this appearance, and described it as a veritable splitting of the capsule by the intrusion of new material into its substance. Collins upholds the views of Gener, published in 1890, namely that this inner hyaline layer is not split off the original capsule, but is freshly secreted by the epithelial cells, and claims

that the capsule is probably embryologically derived from the lens epithelium rather than from mesoblast.

Schwalbe (Anat. d. Sinnesorgane) believes the capsule to have a double origin, the outer and major part from the mesoblast, and the inner part as a cuticular derivation from the epithelial cells, and he thus explains the greater thickness of the lens capsule in front, the lens epithelium having a greater activity in this respect than the lens fibres.

INTRAOCULAR INJECTION OF ANTISEPTIC SOLUTIONS.

Berry (Oph. Soc. Un. King., Ophthal. Rev., Dec. 1892) gives the results of experiments undertaken to ascertain the effect of various solutions injected into the vitreous. Inoculation of the vitreous with fresh septic pus was practiced in some cases before injecting the antiseptic solution. The only substance thus injected which seemed capable of preventing purulent hyalitis was chlorine water, which was also much better tolerated by the vitreous and retina than other solutions. Immediate improvement followed the injection of chlorine water in two cases of suppurative hyalitis in man. (His experience recalls the suggestion of Abadie already noticed in this journal (1890, p. 480) to use intraocular injections of corrosive sublimate in sympathetic ophthalmia.—L.)

DISEASES OF THROAT AND NOSE.

BY WM. F. DUDLEY, M.D.,

Attending Physician, Department Throat and Nose, Dispensary of Long Island College Hospital

CANCER OF THE TONSIL TREATED BY LACTIC ACID.

E. Fletcher Ingals, American Laryngological Association.

The site of this neoplasm was the right tonsil, its diameter about four centimetres. The anterior pillar and uvula inflamed and thickened. The swollen tonsil could be felt externally, but the cervical glands were not involved. For one year previous to this examination the patient had experienced difficulty in swallowing and excess of mucus in his throat. During last six months the swelling had increased rapidly.

The entire gland was removed by wire snare. A portion of the uvula was also amputated. A month later the wound had healed except in one small spot, but a new swelling had formed on site

of tonsil fifteen by eight millimetres in diameter. To the ulcer a sixty per cent. solution of acid was applied, which caused prompt healing. At same time appeared a swelling of right posterior pillar, which increased to ten millimetres in width and thirty in length. Severe neuralgic pains radiated to ear and side of the neck. As this enlargement could not be removed by knife an injection of five minims of twenty per cent. solution of lactic acid was made into the mass. Profuse bleeding followed the introduction of the needle; this hæmorrhage decreased as treatment progressed. The strength of the solution was increased to sixty per cent. This proved too strong and caused sloughing, the abscesses so formed, however, always healing kindly. It was found most advantageous to use sixty per cent. solution, injecting ten minims in one or two places, three times a week. This treatment was followed by steady diminution in size of the enlargement at site of tonsils, but the cancer extended to base of the tongue, pharynx and side of larynx, causing great pain in deglutition.

The injections were promptly made in the tissues newly involved and in every instance caused the disappearance of a mass of tissue eight to ten millimetres in diameter. No sloughs formed when fifty per cent. solution was used.

The injections were made deep into the tissue, and caused pain lasting several hours.

When the tongue and pharynx became involved, the injections rapidly reduced them to their normal conditions.

The patient's general health and strength remain as good as they were ten months ago, but the disease is gradually extending beyond reach of local treatment.

The injections were made with ordinary hypodermic syringe, having a needle four inches long attached.

After the injections an anodyne and astringent spray was applied to throat.

FAULTS IN VOICE PRODUCTION WHICH LEAD TO VOICE DISEASE.

Lennox Brown (Journ. Lar., Rhin. and Otol., Vol. vi , No. 9).

Defects in methods of speaking and singing are much more potent factors in production of voice failure than diseases of throat and nose. There are three elements concerned in the formation of the voice, which may be seat of the defect.

First. The *motor*, that is the lungs representing respiration.

The lungs should be inflated by means of the diaphragm and intercostal muscles, avoiding collar-bone breathing.

The breath should be economized in allowing it to escape from the lungs, and breath should not be taken too frequently.

The "attack" upon a tone should be calculated with just enough force to permit the proper adjustment of the vocal bands for that particular tone, faulty attack causes a lack of coördination.

Second. The *vibrating* element, situated in the larynx.

The most common defect here is carrying the registers too high before changing to the one above, and tremolo and vibrato.

Also raising the pitch of the voice instead of raising the voice itself.

Third. The resounding element, dependent upon properly shaping the resonating cavity, that is the chest walls, windpipe and all the pharyngeal and nasal cavities.

Also want of contracting power of soft palate. Voice gymnastics can accomplish much in overcoming these defects.

INDICATIONS FOR INTUBATION.

Scheniegelow, E. (Journ. Lar., Rhin. and Otol., Vol. vi., No. 9.)

1. Cases of acute stenosis due to œdema of glottis.
2. Cases of diphtheria causing acute stenosis, when time not sufficient to perform tracheotomy.
3. When consent cannot be obtained to do tracheotomy.
4. In paralysis of abductors and in spasms of adductors.
5. In cases of acute stenosis from thyroiditis.
6. All cases of chronic stenosis.

Also intubation is an allowable procedure in all cases of acute stenosis of diphtheria.

THE KINGS COUNTY MEDICAL ASSOCIATION.

The May meeting will be occupied by Dr. George A. Ostrander who will read a paper on "Scarlatinoid Eruptions."

All regular practitioners of medicine and medical students are invited to attend the meetings and participate in the discussion, and to remain as guests of the Association after the meeting.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

A MANUAL OF BACTERIOLOGY. By George M. Sternberg, M.D. Deputy Surgeon-General, U. S. Army, etc., etc. Illustrated by heliotype and chromo-lithographic plates and 268 engravings. New York, 1892; Wm. Wood & Co. Pp. 886.

American medical literature has up to the appearance of this volume been characterized by its richness in works of medical and surgical practice, and by its poverty in the department of pure science. That this should be the case is readily understood when we recall the fact that American physicians and surgeons, like Americans generally, are actively engaged in the practical rather than the scientific, and that while there is one whose work is done in the laboratory and elsewhere in experimentation, there are scores whose lives are spent in the wards of hospitals, or elsewhere at the bedside. The publication of this manual helps to remove to a great extent the reproach under which American medical literature has been regarded by some to exist, and it seems most natural that its author should be the American whose name is, more than that of all others combined, associated with bacteriology in this country. No American, and few foreigners, have done so much to investigate the obscure relations which exist between micro-organisms and disease as Dr. Sternberg, and no one can speak on these subjects with greater authority than he. This manual, therefore, is more than a text-book and guide for laboratory work; it is a book of reference to which the profession may go for mature and authoritative opinions on the many questions which at the present time are agitating the scientific world.

It is impossible to give even a résumé of the contents of the volume before us. It contains full descriptions of the most important pathogenic and non-pathogenic bacteria and bacteriological technology, and is well and amply illustrated, many of the illustrations being from photo-micrographs of the author's own taking. The bibliography is most comprehensive; indeed we do not remember ever to have seen one so complete. The number of individual references is 2,582, and the history of bacteriology is covered from 1786 to July, 1892.

We heartily agree with the publishers in their statement that "in every respect, paper, press-work, illustrations, and in general appearance, Sternberg's Bacteriology is an example of the very best book-work of the present day," and we congratulate them and the author on having made to medical literature a contribution which sheds lustre on the profession, and which must increase the respect of foreign scientists for American writers.



REGNIER DE GRAAF.

This celebrated physician and physiologist was born at Schoorhaven in Holland, where his father was an eminent architect in 1641. After having laid a proper foundation for classical learning he went to study medicine at Leyden, where he made such rapid progress, that in 1664, he published his first work "De Succo Pancreatico," which did him the highest honor, he having been the first to collect the secretion of the pancreas by tying the duct of Wiesung. He was the first to inject vessels, for which purpose Swamerdam devised a hardening material.

But it was his great original work on the form and function of the ova which gave De Graaf his great reputation and for which he is now best remembered and recalled to every student of anatomy by the follicles which bear his name.

He first proved that the human ovaries which Galen had described as *testes muliebus* did not secrete female semen as had been hitherto assumed, but are ovaries in the true sense of that word.

He pointed out that the follicles which bear his name after rupture from the corpora lutea, but he did not consider them the eggs proper, because the eggs found in the uterus after fecundation were always smaller than these follicles. He believed that these eggs reached the uterus through the tubes and were fecundated only by the aura.

In his remarkable work upon the structure of the ovary and its accessory organs, he not only described in the ovary of birds and mammals the follicles which now bear his name, and which he regarded as the ova, but made the generalization of the universal occurrence of ova throughout the animal kingdom, and even observed the ovum in the oviduct of the rabbit.

The opinions of De Graaf were, however, overborne by the authority of his more famous countryman, Leenwenhock, who regarded not the oviduct but the ovary, and more precisely the *corpus luteum* as the seat of development of the embryo.

The observations of De Graaf were repeated at the end of the last century by Cruikshank, and again by Prévort and Dumas. The definite establishment of our present knowledge of the mammalian ovum dates only from 1827, when Von Beer clearly traced the ovum from the uterus back to its earliest appearance in the oviduct, and thence to its origin within the Graafian follicle.

De Graaf also studied the organs of generation in the male, and the art of medicine would have undoubtedly derived still greater advantages from his remarkable genius for investigation had he not been cut off from life at the untimely age of thirty-two, an age that one might regard his investigations but fairly begun.

He resided during his professional life at Orlst, in Holland, where he had an extensive practice.

Besides his work on pancreatic juice he published three works upon the organs of generation both in men and women, which were collected into a single work with his life prefixed and published at Leyden in 1677 and 1705, and translated into Flemish, and published at Amsterdam in 1686. J. H. H.



SIR CHARLES SCARBURGH, M. D.

Sir Charles Scarburgh, or Scarborough, as it is frequently spelled, was born in London, about 1616.

At the time of breaking out of the civil wars which waged in England at that period, he was a student in Caius College, Cambridge, but taking the side of the Royalists, he was ejected from his fellowship; and going to Oxford, which was held by his friends, he became a student at Merton College, then presided over by the immortal discoverer of the complete system of the circulation of the blood.

This change of schools, which at the time seemed a great misfortune, probably had much to do with making Charles Scarburgh the great physician he afterwards became; for it obtained him the friendship, and encouragement of Harvey, whom he rendered considerable assistance in the preparation of his work "d Generatione Animalium."

In 1646 he was created doctor of medicine at Oxford by virtue of letters from the chancellor of the university, wherein it was stated that 'he was master of arts of Cambridge of seven years standing and upwards; that he was spoiled of his library in the beginning of these troubles; and afterwards, for his conscience, deprived of his fellowship at Cambridge." His letters-testimonial from Harvey stated that he was well learned in physic, philosophy and mathematics. He was incorporated at Cambridge in his doctor's degree in 1660; and he was one of the original fellows of the Royal Society.

He then settled in London, became a fellow of the College of Physicians, where he was particularly respected as a man of great talents; and practiced his profession with great reputation. In the meantime Dr. Scarburgh began to deliver his celebrated series of anatomical lectures at Surgeons' Hall, which he continued for more than sixteen years, and was the first who introduced geometrical and mechanical reasonings upon the muscles (myodynamics); which subject was taken up about the same time by Boulli, whose beautiful treatise on Animal Motion, illustrated with hundreds of geometrical figures illustrating muscular action, the writer is so fortunate as to possess a vellum-bound copy of, printed in Rome in 1688.

The subject was allowed to lie dormant for two centuries, when it was rejuvenated by our own beloved anatomist, Prof. Jarvis S. Wight in his charming little book on Myodynamics, published in 1881.

To return to the subject of our sketch. His extraordinary merit attracted the notice of King Charles II., who knighted him in 1669, and appointed him his principal physician, which position he also held to James II. and King William. His "Syllabus Muscularum" was frequently reprinted, being a recognized text-book on the subject.

He died, as we see by the epitaph on his tomb, "by no violent distemper, but by a gentle and easy decay," in 1693, at the ripe age of 79.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

LYMPHOID GROWTHS IN THE VAULT OF THE PHARYNX.

BY THOMAS R. FRENCH, M.D.

Clinical Professor of Diseases of Throat and Nose, Long Island College Hospital.

Read before the Medical Society of the County of Kings, April 18, 1893,

The disease which forms the title of this paper has been productive of a great amount of mischief by impairing the health, or shortening the lives, of a very considerable percentage of mankind, and yet it is only within the past few years that its nature and effects have been fully understood. Until Wilhelm Meyer[1] of Copenhagen, in 1870, called attention to the frequency of the occurrence of, and injurious effects from, hypertrophy of the lymphoid tissue in the pharyngeal vault, the disease was practically unknown. Since then notable contributions have been made

[1] Trans. Med.-Chir. Soc., London, 1870, Vol. III.

to the subject by Loewenberg,[2] Morrell Mackenzie,[3] B. Frankel,[4] Sir William Dalby,[5] Chattellier,[6] Cohen,[7] Delavan,[8] and Bosworth.[9] But it must be said that comparatively little attention was paid to the subject in this country until in February, 1888, the late Dr. Franklin H. Hooper, of Boston, read his splendid thesis on "Adenoid Vegetations in Children," before the Boston Society for Medical

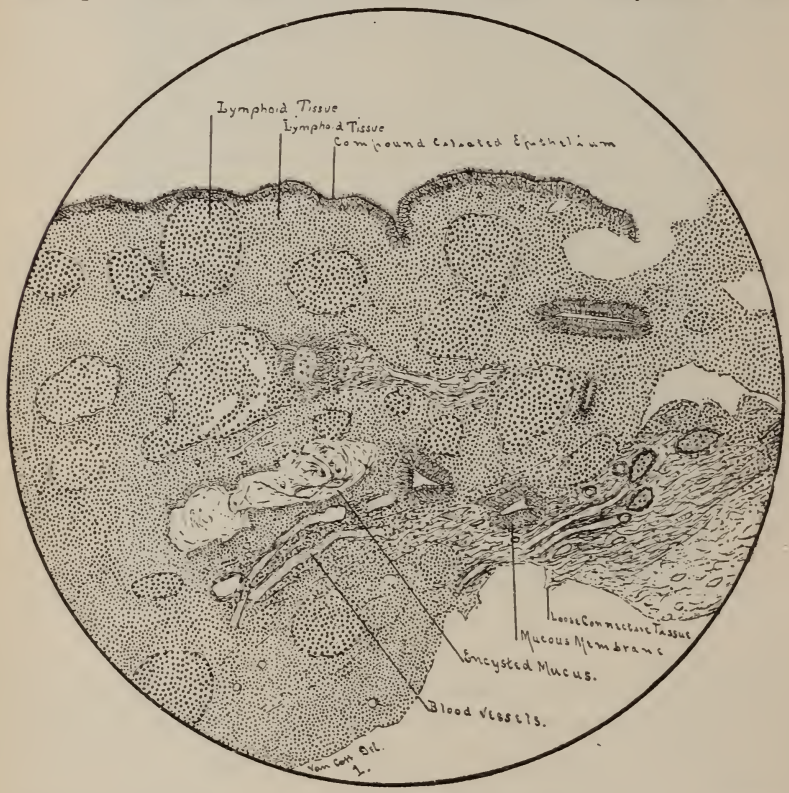


FIG. 1.

Observation.[10] A little later the paper was read again before the Laryngological Section of the New York Academy of Medicine, awakening great interest and enthusiasm. From that time to the

2 Des Tumeurs Adénoides du Pharynx, Paris, 1878.
3 Dis. of the Throat and Nose, Phil., 1884.
4 Deutscher Med. Wochenschrift, No. 41, 1884.
5 The Lancet, Oct. 2, 1886.
6 Des Tumeurs Adénoides du Pharynx, Paris, 1886.
7 Dis. of the Throat and Nasal Passages, New York, 1879.
8 N. Y. Medical Journal, Oct. 12, 1889.
9 Dis. of the Nose and Throat, New York, 1889.
10 Boston Med. and Surg. Journ., March 15, 1888.

present interest in the subject has been quickened, and although each year the disease is becoming better understood and more generally recognized, still attention cannot be too widely drawn to a subject of so much importance until it is as fully appreciated by the profession at large as it deserves to be. I have, therefore, prepared this paper in accordance with the suggestion of my late

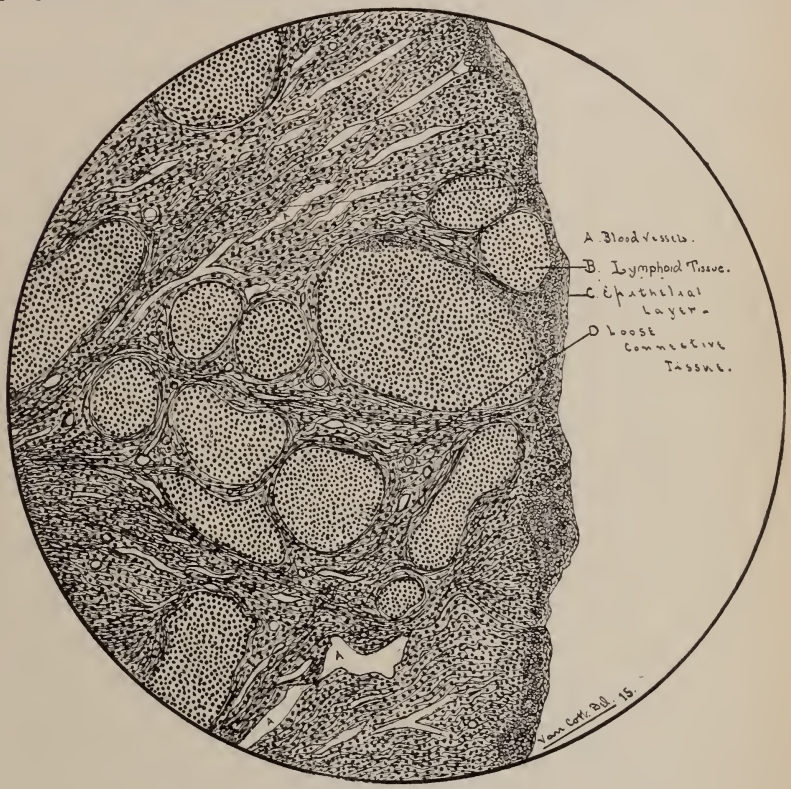


FIG. 2.

lamented friend, Dr. Hooper, and in compliance with the request of a number of physicians, for presentation to this body.

There is no doubt that one of the main reasons for the tardy general recognition of this disease lies in the fact that the symptoms caused by it were, until recently, believed to be due to enlargement of the faucial tonsils; the real cause having been overlooked, lying as it does high up in the pharynx out of the line of direct vision. The weak physical condition, impairment of hearing, facial and chest deformity and various reflex phenomena which result from the failure to recognize and properly treat this disease, which in this climate is to be found in, at least, five in every hun-

dred children, makes it a matter of the highest importance that its nature and effects should be generally known.

Judging from my own experience lymphoid hypertrophy at the vault of the pharynx occurs much more frequently than enlargement of the faucial tonsils. In nine out of every ten cases of enlargement of the faucial tonsils, I have found a mass of lymphoid tissue at the vault of sufficient size to require removal, while only about two-thirds of the cases of hypertrophy of the pharyngeal lymphoid tissue were found to be accompanied by marked enlargement of the tonsils in the fauces.

I submitted fifteen specimens of growths removed from the pharyngeal vault to J. M. Van Cott, Jr., Professor of Pathology in the Long Island College Hospital, for careful microscopic examination. In his report Dr. Van Cott says: "Of the microscopic findings it may be said, in general, that these specimens are composed almost wholly of a very delicate reticular tissue, rich in lymphoid cells, in lymphatics (?) and in blood-vessels. All of the sections reveal, in varying numbers, spherical, ovoidal and irregularly shaped masses of tissue resembling in every respect the solitary follicles of the small intestine, and being, in fact, composed of lymphoid tissue. These lymphoid masses are surrounded in some instances by lymph tissue, in others by a very succulent connective tissue rich in young cells, but of a more distinctly fibrous nature. Some of the masses are covered on their external surfaces with a compound columnar epithelium, very beautifully ciliated, and a few with a compound squamous epithelium. There is no section which, in any way, resembles papillomatous tissue. Of the blood vascular supply it is to be, in general, said, that these channels are for the most part quite atypical in structure, only those vessels lying immediately at the base of the tissue, or that portion which has been directly adjacent to the normal tissue on which the mass depended being of typical construction. Based on these morphological findings lymphomatous hyperplasia is constituted for all the sections without papilloma in any. Only two specimens show a tendency to villous formations and the villosities in these being very small and short."

The masses of tissue vary in density according to the amount of fibrous tissue contained in them. Age seems to have little influence upon the development of fibrous tissue in these growths. In the fifteen specimens examined by Dr. Van Cott, removed from patients varying in age from five to twenty-five years, the least fibrous tissue was found in a mass removed from a boy five years of age, and the most in a growth taken from a girl seven years of

age. Drawings of microscopic sections made from the growths just referred to, are here submitted. (Figs. 1 and 2.) In the first section the tissue is seen to be made up almost entirely of lymphoid tissue containing nodes similiar to those in the spleen. The base contains some adult connective tissue, very succulent, very vascular; the vessels being for the most part atypical. The surface of the mass is lined with a compound layer of columnar ciliated epithelium. One or two stenosed cystic gland ducts lined with cuboidal epithelium and containing mucus, are seen near the base of the mass. The second section contains a great deal of white fibrous connective tissue, rather loosely woven around circular, oval and irregular areas of lymphoid tissue, giving the general impression of a cirrhotic process. The surface is lined with a compound squamous epithelium.

Mackenzie of Baltimore, says[13] that the growths which he has seen in his city have been of a papillomatous character; that their structure as seen under the microscope does not differ from that of papillomatous growths in other localities. This belief is, to some extent, shared by Woakes of London. I asked Dr. Van Cott in the examinations he made for me to look carefully for tissue of a papillomatous nature, with the result as stated in his report.

The disease under consideration is generally described as adenoid in character. Adenoid elements enter into the structure of the growth to some extent, but as lymph tissue constitutes the largest part of the mass, lymphoid would seem to be a better term to use in speaking of these masses of tissue. Adenoid and lymphoid are terms often used synonymously by rhinologists and indeed by histologists, especially the older writers who believed that lymph tissue was glandular in character. These growths are almost entirely made up of lymph tissue, and should, therefore, be described as lymphoid and not adenoid in character, as is now the almost universal custom.

Catarrh of the nasal passages and pharynx is mentioned as a cause of the hypertrophy of this tissue, but it probably plays a small, if any part as an ætiological factor of the disease in children. There is always more or less of catarrhal discharge in these cases, but it commonly disappears entirely after the removal of the growths. Later in life repeated catarrhal attacks may act as a cause. The disease is, however, usually congenital and, occasionally, manifests itself in infancy but does not, as a rule, become pronounced enough to cause annoying symptoms until the second or third year. Not uncommonly it begins to appear at a much later period

[13]Trans. Am. Laryngological Ass'n., 1889.

and sometimes it does not develop to a degree sufficient to cause obstruction to nasal respiration till after puberty. McBride saw a case of hypertrophy of this tissue in a lady forty-six years of age, in whom the mass was very large. The oldest person I have seen with this disease was forty-two. Delavan found it in a man over fifty years of age. The same writer is of the opinion that both before and after puberty many cases are the immediate and direct sequelæ of an attack of diphtheria or scarlatina, most commonly of the former.

It is quite a common belief that children affected with enlargement of the lymphoid tissue of the pharynx are particularly liable to the diseases of childhood. I do not know that we have good proof that such is the fact, but when a disease like diphtheria attacks the throat of such subjects they are apt to fare worse, because of the mechanical obstruction caused by the presence of the hypertrophied tissue, than those whose pharynges were previously in a healthy condition.

Many are of the opinion that this affection is usually associated with hyperplasia of the adenoid tissue elsewhere; in other words that it is but a local expression of a general disease. I am inclined to the belief that the affection in the pharynx is, usually, if not always, the cause of the general condition simulating struma found in many of these cases, and that the reason why this condition frequently persists after the removal of the growths is either that the patient's health was seriously injured by the lymphoid tissue in vault of the pharynx, or that the extirpation of the tissue was not complete.

The disease is also considered hereditary because it is sometimes found in the offspring of parents, one or both of whom were the subjects of the affection in youth. I have known the disease to occur in the whole family of nine children of parents bearing every evidence of having been the subjects of the same affection in early life, but I do not think it necessarily follows that such cases are hereditary, for the impaired health of the parents produced by the presence of the mass in the naso-pharynx, or from other causes, would, I believe, alone be sufficient to cause the disease in the offspring. In nearly every case in which I have looked carefully for the cause of this disease in children, I have found that one or both of the parents were of advanced age, or there was a history of deficient nutrition, or some constitutional disorder in one or both of the parents before the birth of the child. I have, however, in a few instances, found the disease in the children of strong, vigorous parents.

The effects and symptoms produced by the mass of tissue in the vault of the pharynx are usually so well marked and characteristic that a diagnosis can generally be made before the vault is explored. In the majority of cases the facial expression produced is, alone, sufficient to indicate the presence of a growth back of the nose. The characteristic changes which occur in the faces of the subjects of this disease consist of a downward inclination of the outer angles of the eyes, flattening of the cheek bones, diminution in the size of the nose and, perhaps, flattening of its bridge, shortening of the upper lip, drooping of the lower jaw and deepening of the lines about the mouth. In some instances the facial deformity resulting from these changes is very great. Deafness occurs in a large proportion of cases and this condition, added to the peculiar physiognomy, gives rise to an appearance strikingly like that resulting from mental deficiency. On this account the subjects of this disorder are, not infrequently, believed to be lacking in mental capacity and treated accordingly.

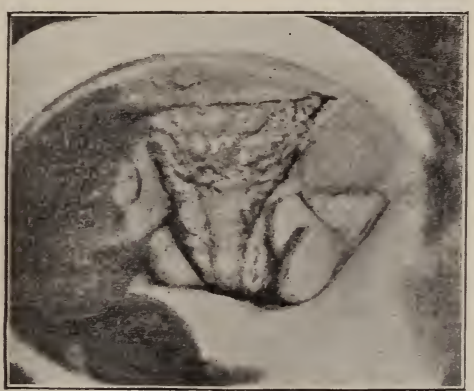


FIG. 3.

Deafness as a complication of this disease occurs in more than half the cases. Blake of Boston, says[14] that evidence of more or less implication of the ears was present in 83 per cent. of the cases he had observed. The causes of the deafness are explained in a variety of ways, the most plausible of which it seems to me, are: (1) deficient air pressure caused by the presence of the mass of tissue in the upper pharynx and consequent interference with the movements of the palate; (2) occlusion of the ear-tract from pressure of the growth upon the orifices of the Eustachian tubes; and (3) extension of catarrhal inflammation from the pharynx. In whatever way the

[14] Boston Medical and Surgical Journal, March 15, 1888.

deafness is caused, permanent structural changes from catarrhal or suppurative processes are apt to occur in the Eustachian tube and middle ear if the cause is not removed.

I have made careful inquiries to determine whether the implication of the ears was, in any way, influenced by the microscopic character of the growths, but with negative results.

The deafness may be constant or the hearing may be affected only during attacks of acute inflammation, to which the lymphoid mass is peculiarly liable. Even small growths may, in this way, excite pathological changes of a permanent character in the auditory apparatus. This photograph, (Fig. 3). was taken of the posterior nares and vault of the pharynx of a man twenty-two years of age. It shows a small growth of lymphoid tissue at the vault which was the seat of frequent attacks of acute inflammation during which the hearing was greatly diminished. The patient has chronic hypertrophic nasal catarrh which has caused considerable thickening of the mucous membrane on each side of the septum. He also has chronic otitis media which was, probably, caused, in part at least, by the irritation occasioned by the presence of the lymphoid growth which can be seen at one point to be in contact with the prominence of the Eustachian outlet.

As the breath-way is confined to the mouth the pressure of the current of air is exerted upon the bony structures of the buccal cavity and more or less deformity of the upper jaw almost invariably results. The hard palate is pushed upwards, the dental arch is narrowed and the teeth grow irregularly and decay early in life. The arching of the hard palate upwards frequently causes deflection of the septum which adds another obstructive element to nasal respiration. Respiration carried on through the mouth diminishes the air supply to the lungs. As a consequence they are never fully expanded and the chest walls sink in, giving rise to the familiar deformities known as sunken sternum and pigeon breast. Not only are the effects of deficient air supply shown in the shape and size of the chest but the whole body is badly nourished. The child is thin, pale and easily fatigued. This, however, is not always the case, for the injurious body effects may not become apparent until childhood has passed and youth is reached. These photographs (Figs. 4, 5, 6 and 7), taken of children before they were operated upon, will show some of the deformities of the chest and characteristic facial expressions produced by this disease. I desire also to present this composite photograph (Fig. 8), of the faces of eight boys, between the ages of three and fourteen, who had lymphoid growths in the vault of the pharynx. It accentuates in a

most satisfactory manner, all the changes in the features and peculiarity in the facial expression resulting from this affection.

The effect of this mass of tissue upon the voice is peculiar and characteristic. The nasal and pharyngeal resonance is lost and



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7

the voice becomes muffled and toneless. The nasal consonants m, n and ng become b, d and g. For instance, no is pronounced *do*, Minnie *Biddie*, going *goig*, home *hobe*. In singers the presence

of even a small mass of lymphoid tissue back of the nose prevents the production of the higher notes and materially affects the purity of all the tones of the voice. Besides, its presence almost always produces a catarrhal condition of the laryngeal mucous membrane from the straining of the vocal muscles occasioned by the increased force used to overcome the faulty resonance.

As the nasal passages are occluded, food and air must necessarily pass through the same opening, the result being that the child bolts his food to free the way for air, and gastric and intestinal catarrh are the natural consequences. This, undoubtedly, accounts partly for the poorly nourished bodies of many of the subjects of this disease.

The obstructed nasal respiration gives rise to noisy breathing at all times, and at night when the tissues are relaxed the difficulty



FIG. 8.

is increased and the patient snores loudly. Sleep is apt to be disturbed and nightmare is of quite common occurrence. The worn and haggard appearance of many of the sufferers from this disorder is due to their inability to obtain sufficient rest in sleep. A discharge of mucus or muco-pus from the nose, or into the pharynx, is present in a large number of these cases. Other symptoms such as epistaxis, headache, cough, asthma, facial chorea, convulsions, nocturnal incontinence and sweats occasionally occur as the result of this disease.

When enlargement of the collection of lymphoid tissue at the base of the tongue, commonly called the lingual tonsil, is asso-

ciated with overgrowth of the tissue at the vault of the pharynx and hypertrophy of the faucial tonsils, the embarrassment to respiration during sleep is apt to be very great. A boy, six years of age, came under my observation two years ago, whose respiration was extremely embarrassed from this cause. Four years before, his mother fearing that the child would suffocate during sleep, passed her finger into his throat and succeeded at once, by pressing upon the base of the tongue, in establishing free respiration through the mouth, and finding this the only way in which easy breathing could be maintained, she kept her finger in position through that night and for ten hours of every night for four years thereafter, when the obstructing masses were removed.

The symptoms caused by this disease are usually most pronounced in the winter season, for this tissue is particularly liable to attacks of acute inflammation, and a state of turgescence is thus maintained for a large part of the year, but in summer, when colds are few or absent, the growths are much reduced in size and give rise to but little annoyance. The symptoms do not necessarily depend upon the size of the growth. One of the largest growths I have seen caused the fewest symptoms.

The examination necessary to determine the presence of the growth back of the nose in children depends, somewhat, upon their age, temperament and training. Rhinoscopy is, of course, the preferable method. If an examination can be made with the mirror, a cushion-like mass of tissue will be seen occupying the vault. It may be but an appreciable enlargement of the pharyngeal tonsil, or be large enough to fill up the vault to such an extent that the soft palate will be pushed forward. The surface may appear to be smooth or broken by ridges and folds, or the hypertrophied tissue may hang from the vault in nodular, pendulous masses, and it was, perhaps, because of this peculiarity in the appearance of the growth that Meyer gave to the disease the name of *Adenoid Vegetations*, by which name, indeed, it is generally known.

In color the tissue does not, as a rule, differ from that of the neighboring mucous membrane, though in some cases it has a grayish hue. In adults the post nasal probe will often be found to be a valuable aid in making a diagnosis.

If a rhinoscopic examination cannot be made, the head should be steadied by the right hand and the forefinger of the left hand introduced quickly into the mouth until it touches the uvula and lower edge of the velum and then passed upwards, behind the palate, along the posterior pharyngeal wall. If a lymphoid growth is

present, a soft yielding mass with an uneven surface will be felt occupying the upper portion of the posterior wall and vault of the pharynx. The sensation conveyed to the finger varies according to the amount of fibroid changes in the tissue. When but little fibrous connective tissue is present the growth has almost a gelatinous feeling. When there is much of such tissue it may acquire a considerable degree of firmness. The tissue is of such a delicate character that, even with the most gentle manipulation, hæmorrhage is likely to occur, and on withdrawing the finger it will be found to be more or less covered with blood. As Hooper remarks in regard to the digital examination: "Although not painful, the procedure is disagreeable, and as the child is apt to rebel against a second trial, it is important that the first should succeed." Semon suggests that a stream of warm water from a syringe or douche be thrown into one nostril and if it does not flow out through the



Fig. 9.

other he believes that it indicates the existence of an obstruction in the naso-pharynx. Bosworth has modified this method by using a spray of oil. If, when projected into one nostril it does not escape from the other in a cloud, he feels almost certain of the presence of a lymphoid growth in the post-nasal space. If the nasal passages are known to be free from obstruction, and it is difficult or impossible to examine with the finger, the oil test will be a found to be a valuable diagnostic aid. Careful inspection of the nasal chambers should, however, always be made before this test is applied. Still this test is by no means as valuable as the digital examination for, unless the naso-pharyngeal cavity is very nearly filled with the growth, it does not interfere greatly

with the passage of the cloud from the atomizer and a moderate-sized growth, giving rise to annoying symptoms, might, in this way, be overlooked.

The appearance and site of the mass in the pharyngeal vault is shown in this photograph, (Fig. 9). The subject of whose pharynx this photograph was taken, was a man twenty-three years of age. A growth of such a size in adults is rarely seen, as it almost always atrophies before, or shortly after, adult life is reached. This growth, however, must have increased in size as the body developed, for nearly the whole of the cavity of the upper pharynx can be seen to be filled with a mass of tissue, almost entirely cutting off a view of the posterior nares. The subject of this photograph knew nothing about nasal respiration, having been a mouth-breather all his life. He was deaf only during attacks of acute coryza. The reason for the deafness at such times can be easily understood by referring to the photograph, in which it can be seen that the growth lies against the Eustachian prominence (only the right shows, the mirror not having been turned far enough to show both), and that but slight swelling would be needed to cause it to occlude the outlets of the tubes.

The photographs of the posterior nares and upper pharynx which have just been exhibited, are the first I have taken to show this disease. I presume they are the first of their kind. The untouched negatives made good prints but were not strong enough to use, unassisted, for reproduction by the half-tone photo-engraving process. I therefore, permitted the artist to strengthen the high lights, and this he has succeeded in doing without, in the least, affecting the conditions or relations of the various structures.

Happily for us, there came to the throat department of the Vanderbilt Clinic this afternoon, a little boy in whom a large mass of lymphoid tissue at the pharyngeal vault presented through a long and wide cleft in the palate, and Dr. Delavan, the chief of the department, having in mind the subject which was to be discussed here this evening, has very kindly brought the child with him that we might see his throat. In no better way could the site, shape and surface appearance of a lymphoid growth be shown, for the child has simply to open his mouth to expose nearly the whole of the mass of tissue. The growth is now the seat of an attack of acute inflammation to which, as I have already said, this tissue is particularly liable. There can be seen upon the surface of the growth quite a number of flattened discs of a yellowish-white color, resembling those which appear on the surface of the faucial tonsils during an attack of acute follicular inflammation. I am sure that we must all feel greatly indebted to Dr. Delavan for having demonstrated to us this interesting and instructive case, for we have, in this way, been able to see a large lymphoid growth from a point of view which is rarely permitted.

If left undisturbed and the subjects grow to adult life, the lymphoid tissue usually atrophies shortly after puberty but as its presence during childhood and youth is often the cause of the greatest physical injury, as I have tried to show, the excess of tissue should be removed. Astringent and alterative remedies brought into contact with the hypertrophied tissues have little effect upon it, and valuable time is wasted by attempts to reduce it in this way. Nothing short of complete removal with cutting instruments will give permanent relief and effect a cure.

The spring and autumn are mentioned by some writers as being



FIG. 10.



FIG. 11.

the preferable time for operating, but if care in regard to exposure is taken, experience teaches that the results obtained are quite as satisfactory at any other season of the year.

The method of operating which I believe to be best adapted for the easy and complete removal of these growths in children is as follows: After being wrapped in a blanket and etherized, the child is placed in a chair, tilted well backwards, and tied to it with long and broad linen bands (Figs. 10 and 11), in an ingenious manner suggested by Drs Dickinson and Dudley, who have assisted

me in a large number of these operations. The chair is then raised slowly to the upright position, to avoid the disturbance in the circulation which sometimes results from too rapid a change in posture, and placed with its back to a window. The operator then seats himself in front of the patient and operates by reflected light with as much ease and accuracy as if the patient were seated in his office operating chair. The mouth is held open with a mouth-distender, the palate drawn forward with a retractor and the mass removed piece by piece with cutting forceps. I believe that the upright position is quite as safe while the patient is under the influence of ether as when the body is prone. If chloroform is used for the anæsthetic the patient should not, of course, be placed in the upright position. It is my habit to begin the anæsthesia in the prone position with a few whiffs of chloroform to avoid the struggles which accompany the use of ether from the start, but the body is not raised until complete relaxation from ether has occurred and then the change to the upright position is made very slowly. I have operated with the patient in the upright position nearly a hundred times and have enjoyed greater advantages without, apparently, increasing the risks to the patient than when, in former cases, the patients were placed in the prone position. If the hæmorrhage should be profuse and the blood allowed to flow unchecked into the larynx, there would be danger of the formation of a clot and consequent suffocation, but the stream of blood can be readily caught in sponges passed rapidly over the posterior wall of the pharynx.

In subjects who yield readily to the influence of ether and in whom the necessary muscular relaxation can be easily maintained, a self-retaining palate retractor, or a rubber cord passed through the nose into the throat and out through the mouth with which to tie up the velum, will, sometimes, aid materially in simplifying the operation by permitting ready access to the upper pharynx with the forceps and to the fauces for wiping away the stream of blood flowing down the posterior pharyngeal wall. In most cases, however, I prefer to use a retractor to draw the palate forward as occasion requires.

If the operator is thoroughly familiar with the various structures in this region, after determining the shape and extent of the growth with the finger, he can remove the greater part of it without digital examination. After the bulk of the mass has been cut out, frequent examinations should be made to determine the situation of the remaining portions. Occasionally the finger may be used as a guide for the forceps for the removal of portions which other-

wise might evade its grasp. With forceps and a strong finger nail, with a sharpened edge, the post-nasal space can be completely cleared of the overgrowth of lymphoid tissue.

Not more than two or three pieces should be removed at a time, for free hæmorrhage occurs each time the tissue is broken and to prevent the blood from flowing into the larynx it should be caught in sponges passed into the back of the throat until the bleeding has ceased, and it rarely continues more than a minute. The sponges should be held in forceps with a good catch to prevent them from slipping from the grasp of the instrument and falling into the larynx. When a portion of the tissue has been grasped by the forceps it should be torn off by making slight traction and twisting the in-

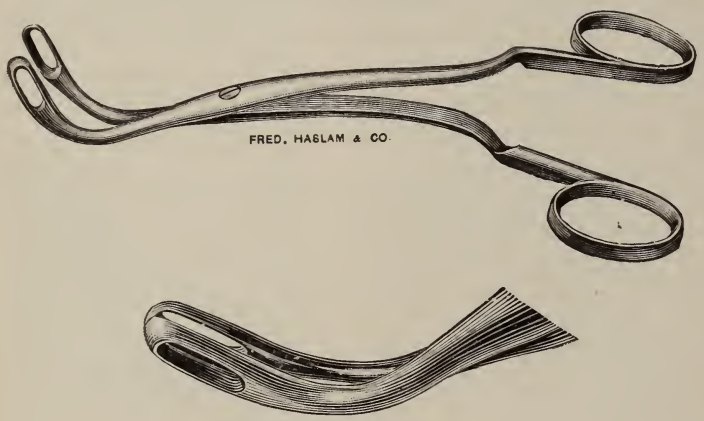


Fig. 12.

strument to the side. Great force should never be used and care should be taken to avoid making any considerable amount of downward traction, for in this way the mucous membrane may be stripped from the posterior pharyngeal wall.

A large number of forceps have been designed for use in this operation and yet I am obliged to confess to having had a pair of special shape made for my own use. (Fig. 12.) My purpose in designing this instrument was to secure a larger bite than is permitted by any instrument with which I am familiar, except the forceps of Juratz and Gradle. The objection to most forceps for this purpose is that too small a bite is taken, and consequently too much time is needed to remove the entire mass of tissue. The amount of hæmorrhage following the removal of as large a mass of tissue as can be grasped by these forceps is never greater than can be readily caught in sponges passed into the fauces.

The forceps are a trifle heavier than Loewenberg's and have a

sharper curve at the cutting end. They open laterally and are fenestrated. The fenestrum is oblong like that of Juratz's and larger than is usual in such instruments. The cutting edge is confined to the convex side of the curve and half of the upper end. The objection to the large cutting forceps and curettes which are designed to remove the growth in a single sweep is that they only remove the bulk of the mass; sufficient, no doubt, to permit the reëstablishment of nasal respiration, but not enough to prevent the continuance of catarrhal discharges and repeated attacks of acute inflammation in the base thus left. It is, I think, the common belief that it is not necessary to remove the entire mass, but that after enough has been removed to permit free respiration, the remnant can with safety be left to atrophy. In those cases in which a large base is left I believe that, not infrequently, they not only do not atrophy, but that fresh inflammation of the tissue ultimately results in an increase of the growth which may bring about the same train of symptoms for which the operation was originally performed. The only cases in which I have been obliged to operate a second time have been those in which the entire mass of tissue was not removed at the first operation. In order to obtain an effectual and permanent cure of this disorder the mass of tissue must be *completely* removed. While my preference is for the size of forceps just shown, there can, of course, be no objection to the use of the Gradle forceps, in skilled hands, or the Gottstein curette for the removal of the bulk of the mass of tissue, if the remaining portion is thoroughly cut out with some smaller instrument. By whatever method the growths are removed, their extirpation should be complete.

After as much tissue has been removed as can be grasped by the forceps, the stump should be thoroughly broken up with the finger nail. Curetting with the finger nail usually causes sharp hæmorrhage, which should be allowed to drain from the nose and mouth by turning the body to the side and resting the head, face downward, on the attendant's knee. The finger nail alone is sometimes used to destroy these growths, but except in very young children, or when the mass is very soft and of recent growth, it is an ineffectual method of removal and should not often be resorted to.

The mouth-distender which I use (Fig. 13.) was designed especially for use in this operation. It is easily introduced and when in position is out of the operator's way and does not interfere with the application of the mouth piece of the ether inhaler.

It is self-retaining to such a degree that when placed between the teeth and firmly fixed by forcible separation of the jaws, it seldom gets loose and frequently remains in position, even though vomiting occurs, during an entire operation. The special features in this instrument consist of two fork-shaped arms placed

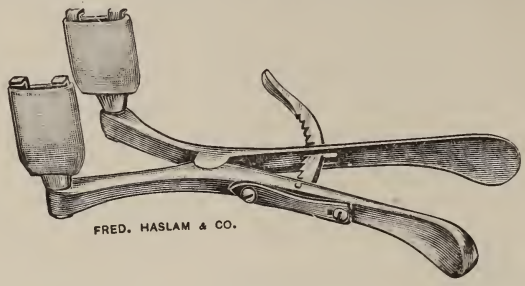


FIG. 13.

at right angles to the blades and attached by joints with a pivot action. These, with a section of rubber tubing stretched over them, are intended to be placed between the teeth. When the instrument is spread open and the jaws separated, the fork-shaped arms, because of their pivot attachment, fit themselves into the irregularities of the teeth and thus take a firm hold.

The retractor is made of aluminum. (Fig. 14).

The administration of ether and the removal of the bulk of the mass of tissue may be accomplished in a half-hour or less, but for the complete extirpation of the growth from three-quarters of an hour to an hour is required.

When the faucial tonsils are to be removed, unless they are of such



FIG. 14.

size that it will be difficult to pass instruments and sponges between them, I believe it wise to leave them till after the lymphoid mass is taken out.

Young adults usually possess sufficient courage to permit the removal of the growth with forceps, which, as a rule, can be accomplished with but little discomfort, by the application of a solution of cocaine, in a few sittings.

Hæmorrhage is apt to be free during the operation, but ceases spontaneously after the removal of each piece of tissue. In some cases the loss of blood is considerable. I believe that the hæmor-

rhage is greater when the patient is lying on his back, especially when the head is allowed to hang over the edge of the table, as advocated by some writers, than when the upright position is employed. The blood which escapes the sponges during the operation, when the patient is in the upright position, flows into the stomach and is usually vomited during recovery from ether. Dr. George R. Fowler informed me recently that he had lost several patients, under a year old, after the operation of staphylorrhaphy, from gastro-enteritis caused by the presence of blood in the digestive tract, vomiting not having occurred after the operation. Operation for the removal of lymphoid growths is seldom demanded in children under two years of age. Emesis does not always occur after the operation, but I have never known any injurious effects result from the retention of blood.

Secondary hæmorrhage occasionally occurs after removal of these growths. To my knowledge four deaths have occurred in America from this cause. One, the subject of hæmophilia, occurred in Boston after a digital examination of the upper pharynx. The others occurred in the practice of three skillful operators; two in New York and one in this city. Because of this danger the patients should be kept under close observation for, at least, twenty-four hours after the operation. They should be turned on their sides from time to time so that if hæmorrhage should occur it would be detected by the escape of blood from the nostrils or lips. If severe hæmorrhage should occur a plug of absorbent cotton drawn into the upper pharynx would, no doubt, be sufficient to check it. The instruments necessary for applying a tampon to this portion of the air-tract should, therefore, be kept at the bedside ready for immediate use.

When the little patients are pale and debilitated, as a result of the presence of lymphoid tissue in the post-nasal space, the question is often asked if it would not be best to defer the operation until they can be placed in better condition. Experience has taught us that unless the patient is suffering from some acute disorder, the sooner the operation is performed the better, for they can have no more valuable tonic than that which results from the reëstablishment of nasal respiration.

Suppurative otitis sometimes occurs as a result of the operation. As it has occurred in the practice of some of the best operators, the possbility of its occurrence should always be borne in mind.

The treatment after the operation consists in keeping the child in bed for a day or two, or until the shock of the operation has

passed, and indoors for three or four days or a week, according to the season of the year and character of the weather.

Unless obstruction exists in the nasal passages, nasal respiration



FIG. 15.



FIG. 16.



FIG. 17.



FIG. 18.

is reëstablished as soon as the growth is removed. Deafness is relieved in the majority of cases after the removal of the pharyngeal growth and in nearly all cases the ear symptoms are improved, even though chronic catarrhal or suppurative otitis has resulted

from the disease. The beneficial effects of the operation upon the voice are usually shown at once, but in some instances it is weeks or months before the full benefit is apparent.

The reëstablishment of nasal respiration and restoration of hearing give to the face an expression of intelligence which is striking and most gratifying. Of course, the changes brought about in the bony structures of the face and chest occur gradually. The improvement in the facial expression of one of the subjects, whose photograph has been exhibited, which occurred in two months after she was operated upon, and which fairly represents



FIG. 19.

the changes which occur in the majority of these cases in the same length of time, can be seen in these photographs. (Figs. 15 and 16.) The changes in the face and chest of another of the subjects which were apparent at the end of two years after operation, are shown in these photographs. (Figs. 17 and 18.)

Children who, perhaps, have never breathed through the nose, not infrequently continue the habit of mouth-breathing, and so fail to obtain much of the benefit for which the operation was performed. In such cases I use a device, which I designed for this purpose, which should be worn during sleep until the habit of breathing through the nose is acquired. (Fig. 19.)

There is probably no operation performed in the domain of rhinology the results of which are more beneficial to the patient or gratifying to the operator than those which follow the removal of lymphoid growths from the vault of the pharynx.

DISCUSSION.

Dr. D. BRYSON DELAVAN.—Mr. President, while this is by no means a new subject, because known to Wm. Hunter and first fully understood and explained by Prof. Wilhelm Meyer as far back as

1868, I know of nothing more gratifying than the acquiring of new information upon a topic already much discussed. The more familiar one may be with the subject of lymphoid hypertrophy, the more he will necessarily have enjoyed the paper to which we have just listened. It is full of new points and suggestions, alike for those who are well read and those to whom it may be more or less unfamiliar.

The history of lymphoid enlargement at the vault of the pharynx has some points of peculiar interest. It was practically brought before the profession by Prof. Meyer, a Dane; the instrument best adapted to its removal was invented by a French surgeon, Loewenberg; and the best method of operating, that under anæsthesia, was the product of English ingenuity. There is another significant thing about lymphoid hypertrophy; the first to introduce it to the world at large, Dr. Meyer, was an otologist, while its introduction in this country was likewise due to an otologist, Prof. Albert H. Buck. My own attention was called to the subject in 1878, by Dr. Buck, who had been paying much attention to its study since the appearance of Meyer's paper, and who strenuously urged me to learn all about it, insisting that he who would really understand and teach it and who would operate successfully upon the cases that came before him would be one of the greatest possible benefactors to the human race.

This statement hardly requires explanation when we remember how futile our attempts were to cure the evil effects of this condition, until it and the operation for its relief were understood.

The pathology that Dr. French has suggested this evening is particularly appropriate and reasonable. It is strange that the disease should have passed for so long under the name of adenoid, when it is clearly lymphoid. One of the most important things mentioned in the paper has to do with the pathological changes which take place in these growths with the growth and development of the individual. Nothing is more common than to hear of the faucial tonsils that the child will outgrow them; that they will decrease in size, and that we need not worry about them. The same is often taught of the pharyngeal tonsil, namely, that if left to itself, after a certain period of life the trouble will correct itself, and that, therefore, it should not be interfered with. To the best of my observation this statement, although possibly true in some cases, is distinctly untrue in the majority. It is not even true that we may expect atrophy to take place at puberty. From eighteen to twenty-five it may, but not even then in all cases. Without question it is likely to do the most harm at the period of greatest con-

structive activity, that is, during the years when the child is growing most rapidly. The best results may be gained if operation be allowed earlier in life, before puberty rather than after puberty, because after puberty the development of the child is more advanced, and with the child (a mouth-breather) many changes are likely to take place which could have been prevented by the earlier application of relief.

In regard to prognosis, suppose the case to have been one in which the breathing is not materially interfered with, in which the child is actually not a mouth-breather, and in which the enlargement is not very great. Suppose that atrophy does take place, what will be the ultimate result of that process? Do we have an actual disappearance of the lymphoid hypertrophy, or does it remain pathological? I believe that in the vast majority of cases there is left behind a pathological condition. Firstly, there may be incomplete atrophy, that is, the growth may never entirely disappear. This condition may be found in people at middle life. I have seen it in a woman of over sixty, who had very considerable thickening with a clear history of lymphoid hypertrophy during youth. We may have the condition known as Thornwaldt's disease, which appears to be nothing more than neglected adenoid hypertrophy, and the relief of which is commonly the same as that recommended for the same condition in children. Then again, suppose we have instead of deficient decrease in size, a true atrophy of this tissue. We all know that in the adult there are some cases of atrophic disease at the vault of the pharynx which are very stubborn to deal with. I have more than once elicited a history of lymphoid enlargement in earlier life from such adults, therefore, unless there is reason to believe that the growth will actually disappear and leave a healthy condition behind, we are justified in recommending that at as early a period as possible, it be thoroughly removed. I believe this to be particularly true in view of the deleterious effect of lymphoid enlargement, of even a very mild degree, on the hearing. There are cases of loss of hearing without apparent thickening, in which examination by the finger or probe will reveal the existence of an abnormal enlargement.

Lymphoid hypertrophy, therefore, is not by any means a disease the interest of which is confined to childhood, but it becomes a matter of life-long interest and importance to the individual. It is one which cannot be taken in hand too early or dealt with too thoroughly. I have for years heartily agreed with the sentiments which Dr. French has expressed with regard to the thorough

removal of these growths. Almost daily I see in my practice and often read in the special literature of the subject, evidence and proofs that imperfect removal of lymphoid hypertrophy in many instances does not give satisfactory results. Lauranda, of Lille, operated upon a girl of thirteen, and having heard that remnants left in the pharynx would atrophy, was not sufficiently thorough. Recurrence of the growth took place, the second mass being larger than the original tumor. This certainly has been my own experience in one case, and I have no doubt that it has been observed by others.

The history of lymphoid hypertrophy and its treatment may be divided into three general epochs. The first was that instituted by Prof. Meyer when he demonstrated the existence of such a thing, and that it could be cured. The second was marked by the introduction of anæsthesia. The third era is the present time, in which the methods of operation are being more and more perfected. My own experience, extending over a period of fifteen years, has practically covered the history of operations on the pharyngeal vault. At first we did not use anæsthesia. We relied upon the finger nail, nitrate of silver, the Vienna paste, the small curette, and the ring knife of Meyer, and later the forceps of Loewenberg. It was not pleasant at that time to treat these patients, for the operation was difficult, painful, and unsatisfactory. One would often hesitate to go on because of the extreme suffering caused by the necessary manipulations. The day that Dr. Hooper brought from London the news that adenoids could be removed under anæsthesia, was one of the most welcome days in all my medical career, for since then the treatment of these cases has been a delight and a pleasure instead of something to be dreaded. Of course, some will raise the question whether anæsthesia should be employed for so comparatively simple an operation, and a great many think that it is trivial. But if you will operate on adults you will find it is not so. I have operated on a great many thoroughly intelligent young adults, both men and women, persons of excellent judgment, who would not exaggerate their sensations. The operations have been generally done under cocaine. From what these patients have said, as well as from my own observation upon them and others while operating, I am convinced that the operation is never agreeable, that it is sometimes painful, and that in many cases the pain is intense.

In these cases I have found the anæsthetic effect of cocaine to be very unsatisfactory, with children, therefore, there is no doubt that general anæsthesia is a great blessing, and I believe that we

have no right to operate without it. Even with young adults it is often better to operate at once and thoroughly under a general anæsthetic. The objection to anæsthesia is that its use requires a greater amount of time. This objection is hardly valid, however, since the same might be said of any operation. As with other operations, that in question does require for its best accomplishment both skill, thoroughness and a reasonable allowance of time. There are cases in which it is justifiable, of course, but in my own practice I would in many cases prefer to decline to operate rather than withhold what appears to me to be such an essential aid to both operator and patient.

The method of seating the patient described by Dr. French is ingenious, and, I believe, effective, and the new instruments that he has presented are most welcome. The mouth-gag is particularly valuable, and a distinct improvement upon any similar instrument now in use, as practical experience with it will certainly demonstrate. The forceps are ingeniously planned to meet the requirements of a large variety of cases, and are, in several respects, superior to others of the same class. Of the remarkable series of illustrations presented to us for the first time this evening one can only speak in terms of highest praise. They are as valuable and interesting as they are original and unique, and far in advance of any that have thus far appeared.

I am greatly indebted to the reader of the paper for the many suggestions that he has given us, and congratulate you that he has first presented this contribution to your Society.

Dr. J. S. Prout.—In discussing adenoid growths in their relations to diseases of the ear, I regret to say that I have not much practical knowledge of the subject, and, consequently, when I recognize such cases I refer them to the throat specialists, considering that such a course is best for the patient as well as myself. Dr. French has very fully explained the connection between these adenoid enlargements and the middle ear, so that there is very little for me to say on the subject. Of course, everyone admits that any interference with the physiological function of the Eustachian tube may result in middle-ear disease. These growths may encroach directly on the mouth of the tube causing its partial or complete closure, and thus interfere with the normal interchange of air between pharynx and middle ear. The tube may be free, but the naso-pharyngeal space may be so much encroached on that this interchange of air may be diminished or prevented. The catarrhal inflammation caused by or accompanying them may extend along the tube by continuity of tissue and invade the drum cavities.

Some of the blood for the middle ear is carried there by arteries that run from the pharynx along the upper wall of the tube and returns by veins to the pharynx. Any interference with this return will cause hyperæmia of the mucous membrane lining the cavity of the tympanum, resulting in effusion of serum or mucus, or otitis-media, acute or chronic. It is therefore evident that the successful treatment of the ear complications will largely depend on the proper treatment of these adenoid growths, and, for this part of the treatment, from my point of view, it is best for all concerned to refer the patient to one of the several excellent throat specialists whom we are so fortunate as to have within easy reach in Brooklyn.

Dr. Jonathan Wright.—Drs. French, Delavan and Prout have gone into this subject so thoroughly that it behooves me only to skim around the edges.

In regard to the occurrence of lymphoid tissue in the vault of the pharynx, if you were to examine all the children you would be surprised to see the number who have no symptoms at all and yet have considerable lymphoid tissue in the pharynx. I have made it a rule to examine the naso-pharynx of every child under ten who comes to be treated for throat trouble, for ear trouble, or other trouble, and I have found a considerable amount of lymphoid tissue may exist there without giving rise to any appreciable symptom. It is true my observation has been largely in hospital practice, and in these cases the people do not observe very closely, but the lymphoid tissue exists normally in the naso-pharynx in considerable quantity. That is, if you cut sections of the mucous membrane of the naso-pharynx in a still-born child, you will find the predominating tissue is lymphoid, and, while I have not examined enough cases microscopically to form an opinion of the normal amount of the growth, clinically I find frequently appreciable enlargement without symptoms. Just how much enlargement we should allow to exist without operation it is impossible to say; every man will be governed by his own feelings in regard to it. I must say that unless there are symptoms, I should want to find quite a large increase of lymphoid material before I made any interference. When the enlargement is trifling in amount it will almost surely leave behind no more scar tissue by atrophy than by operation. However, this is a pretty dangerous doctrine to preach, because those who do not like to operate may allow cases to go by when they really ought to be operated on. It requires some experience to know just when to allow this lymphoid material to pursue its course, and when it is to be operated on.

The difference in the fibrous tissue spoken of by Dr. Van Cott,

in the report is very interesting. I have observed it. I have made sections of a number of these growths (20 or 30) and I have been struck with the same thing, and I have found it more or less so in the faucial tonsil—that the amount of fibrous tissue does not correspond with the microscopical appearance of the tonsil, and not strikingly with the age of the patient. In the faucial tonsil, as a rule, however, there is more fibrous tissue, and we are more liable to have hæmorrhage in adults than in children. In the naso-pharynx, I believe that this does not hold good, because I know of cases of severe hæmorrhage, and the four cases of death referred to by Dr. French were all in children. I have seen in an adult very severe hæmorrhage. So the relation of fibrous tissue in these growths to hæmorrhage is not altogether explainable. Of course when an adenoid atrophies it is simply the round cells that disappear, the fibrous structure that supports these growths remaining behind, and that is what gives us the so-called Tornwaldt's disease. The surfaces of the median and lateral folds of the pharyngeal tonsil by repeated inflammation become agglutinated, and when the tonsil atrophies it leaves behind those adhesions which you also very frequently see between the Eustachian tube and the vault of the pharynx, bands of scar tissue stretching across from the Eustachian tube to the vault of the pharynx. There is nothing more common in the naso-pharynx than this appearance, and yet I have been unable to note any definite aural symptoms set up by this condition. This winter I saw a case where extensive fibrous bands stretched across the pharynx. One band extended a third of the way down the septum, and from the history, which I have forgotten now, I was disposed to believe it was the result of the above process. I remember one case in which there seemed to be a false roof to the vault of the pharynx. When I introduced my finger into the naso-pharynx there was a soft elastic feeling at the roof, and with a little force I put my finger through a membranous sort of tissue which lay below the true vault of the pharynx. After cleaning this out the patient got well.

In regard to the papillomatous condition, I was very much surprised to hear Mackenzie, of Baltimore, quoted as saying that these were papillomatous growths. Certainly there is nothing which at all resembles that under the microscope. Macroscopically they do ; that is probably the reason why the statement was made, but of course, under the microscope it is entirely different.

Dr. French.—He said he found the papillomatous structure under the microscope.

Dr. Wright.—It isn't so, anyhow.

The age at which these growths occasionally persist is very great. Cohen reports a woman of seventy with one almost as large as a walnut, which had existed quite a number of years without giving rise to any symptoms that were noticed by the patient.

The hereditary part of the subject can be understood in this way. I believe that patients with a rheumatic diathesis are more apt to suffer from these growths. You may say that is a pretty safe statement, because if you can look back a generation or two in any family, they are very apt to have had rheumatism, and if they happen to have adenoids you have the thing established. Nevertheless, I believe that rheumatic children will have these growths more frequently.

Another predisposing factor in these cases is the shape of the arch of the palate. I have never been able to understand the explanation usually given of the fact that these growths coexist with high arched palates and a narrow vault of the pharynx. I have heard it explained—I think Chatellier says, it is because of rarefaction of air in the nose on account of stoppage of the naso-pharynx —that is absurd. It might cause rarefaction of air below the growth but not in front of it.

I think the coexistence of these two factors, the high vault of the palate and the distorted septum and narrow cheek bones, is one in which the first factor is probably the bony deformity, adenoids the result. They probably have some effect on the soft tissues, but I must say I cannot see how they produce this narrow arch.

Now, with regard to the looks of these children. There is something about the looks of the child very frequently, but I have seen a number of children with the adenoid look without the adenoid, and other children will have the adenoid growth, without the look, so that is not an absolute rule. The highest vault of the palate I ever saw was in a girl fourteen, and her naso-pharynx was entirely free. She had the open mouth and the stupid look.

In regard to the operation, as Dr. French has said, there are a great many different opinions. I do not think we ought ever to operate without ether, in children. As to taking one or one and a half hours, that is undoubtedly satisfactory from a purely surgical point of view, and very praiseworthy in showing a desire to be thorough in operation, but those who operate rapidly, say in ten or fifteen minutes, and who have done a large number of operations without ever having any bad results would hesitate to adopt the plan of setting the child in an upright position, spending more than an hour, losing more blood than with the other operation, and apparently getting no better results. The results in these

cases, writes a moderately expert operator, are almost uniformly good. Dr. French and Dr. Delavan both said, that unless you get the growths all out, they not infrequently recur. The only case on which I have operated a second time was that of a big, stout girl of ten or twelve, who came to me on one of my busy days. The growth looked so perfectly easy to get at that I slipped up the forceps and took out a large piece, and the next time a smaller piece, and finally had to put her under ether. Two months afterward she came back with the symptoms unrelieved. Examination showed some growths there, and I put her under ether again and cleaned out her naso-pharynx very thoroughly, and every symptom was relieved. That is one case out of a great many, and perhaps I have two or three others which I do not recall now, certainly not a very great many, by the rapid method of operation.

In regard to the pain of this operation, I thought Dr. Delavan rather exaggerated it. It is not a pleasure, but I have a good many adult patients who say the pain is not severe. I operated on a patient to-day in the hospital, a boy fourteen or fifteen, and took out a large growth, and he claimed it was not painful. It seems to me it depends largely on the nervous organization of the patient. Some operations hurt some patients more than others. Where you have an adult patient who can bear a palate retractor in the naso-pharynx, under cocaine, with the post-nasal mirror you have such an advantage in operating that I always try to do it in adults without ether.

Dr. J. M. Van Cott, Jr.—I regret being unable to hear the first portion of Dr. French's interesting paper. I can only discuss this subject from the standpoint of general pathological laws, and am ready to back personally the microscopic findings made for Dr. French, and which I see are similar to those of Dr. Wright, who has written on the histology of adenoids.

Dr. French's point on the erroneous use of the term "adenoid" seems well taken : the recent writers on pathology here and in Europe are fully in accord with his claim, that these growths should be styled "lymphomata."

With regard to the question as to whether these are papillomata, I certainly agree with Dr. Wright, that they are not in any sense ; as I was unable in any section examined to find anything at all in resemblance with papilloma.

Regarding the subject in general, it would seem that these lymphomata must predispose to disease in two ways. First, Dr. French has undoubtedly shown the relation between the lowered vitality and respiratory obstruction and other ill effects produced

by these post-pharyngeal neoplasms, which thus predispose to disease. Second, I believe that the hyperplastic tonsil of Luschka may be the primary seat of tubercular infection more often than is generally supposed, and see no reason why secondary tubercular infection of other surrounding structures might not readily result from metastasis of tubercle bacilli through the rich lymphatic supply. In the same way I believe these lymphomata form good nutrient ground for Loeffler's dipththeria bacillus, and probably other pathogenic organisms ; and, because of all these facts think their radical removal the only logical treatment.

Dr. Bogart.—I would like to say a word in reference to the posture best suited for the removal of these growths. It seems to me there is considerable advantage in placing the patient upon his back and allowing the head to hang over the end of the table, if necessary, putting a pillow under the shoulders. By that posture the larynx is raised to a higher plane than the nostrils and even if you have very free bleeding, the blood will flow out of the nose before it reaches the level of the larynx. All danger of strangling is thus avoided, and one need not constantly sponge out the pharynx during the progress of the operation. Neither will the blood flow into the stomach, and the coincident evils are therefore avoided. I have lately had under my care a case of cleft palate in which I found this condition in the throat, and in that case and in the others I have had to treat, I have found a sharp curette with the proper curve very useful.

Placing the patient in the position mentioned and disregarding the hæmorrhage for the time, I have used the curette rapidly and, with the index finger as a guide, have thoroughly removed all the diseased tissue in a very few minutes. The operation finished, the throat is sponged out and if bleeding has not subsided spontaneously, pressure is applied by means of a compress wrung out of hot water, or a bit of iodoform-gauze, which latter I have found very useful in controlling capillary oozing.

It has been my experience that whenever we have to deal with tissue resembling this lymphoid tissue, the hæmorrhage ceases sooner if the operation is rapidly completed, and I think the patient loses less blood if the whole thing is done at once, with the further advantage of avoiding the dangers incident to prolonged anæsthesia.

It is true that if the head hangs down there will be more blood in the pharynx than if the patient is in an upright position, but anyone who has to give an anæsthetic would prefer to have the patient lying down. In children I prefer chloroform. With

Junker's inhaler the catheter introduced through the nose can be pushed aside so as not to interfere with the operation. My contention is that even if there is more blood in the region to be operated upon, the loss of blood will be less than if the patient sits up and the operator waits for the blood to cease flowing after each bite.

Dr. FRENCH.—I have already occupied so much time that, at this late hour, I am loath to ask for more but I promise to limit my remarks to a very few words. While a considerable amount of blood flows down the posterior pharyngeal wall during the operation, that which escapes the sponges does not get into the larynx, but finds its way into the stomach and is vomited later. By placing the patient in the upright position I believe that the growth can be removed with less loss of blood than when lying on his back. There is less blood in the head when the body is in the upright, than in the prone position. If a man faints we do not stand him on his feet, but rather place him in a horizontal position so that the blood will flow into his head. Since I have been operating with the body in the upright position the little patients have seemed to feel the effects of the loss of blood less than those who, in former times, were operated upon while lying on the back. If ether is used for the anæsthetic and care is taken to bring the body to the upright position slowly, its administration is as safe as when the patient is lying down.

There seems to be some difference of opinion in regard to the amount of pain experienced, or complained of, when the operation is performed under the local anæsthetic influence of cocaine. I quite agree with Dr. Delavan that even after a strong solution has been applied to the growth, as thoroughly as is possible, the discomfort produced by cutting and tearing out portions of this tissue seems in some cases to be considerable. Patients often describe the sensation as being like that of a toothache, and yet as Dr. Wright says, nervous patients may complain of more pain than is actually experienced. On the other hand these growths are sometimes removed without causing the slightest discomfort to the patient.

To my mind the most important point brought out in the discussion was that made by Dr. Delavan, and also spoken of by Dr. Wright, in regard to the injurious effects produced by the atrophy of lymphoid tissue. This, it seems to me, is a matter worthy of the most thoughtful consideration. If the atrophy of this tissue is apt to produce symptoms which may continue through a lifetime, then the common practice of to-day of leaving a considerable por-

tion of the mass of tissue to atrophy is, for this reason, in addition to those given in my paper, altogether wrong. Lymphoid tissue usually atrophies shortly after puberty, but it does not disappear. It is highly probably that this atrophic condition of the tissue at the vault is often the exciting cause of catarrh of the Eustachian tube and middle ear, which is so common in middle life. If this is true, then it would, of itself, be a sufficient reason for the complete removal of these growths.

NOTE ON THE THERAPEUTICS OF CERTAIN MODERN ANTIPYRETICS.

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During recent years chemistry has furnished to the world many valuable remedial agents. That this science has much more in store for us there seems every reason to believe. Possibly as valuable as any of the discoveries made in this direction may be placed that of the agents which we call antipyretics, such as antipyrin, acetanilid, phenacetin and many others of similar action. The fact that this group is already so large, and constantly being added to, together with the fact that their use is so extensive, though their effects are sometimes far from satisfactory, is my excuse for presenting a few thoughts regarding them this evening. So far as our present knowledge goes the members of this group are very similar in their physiological action; consequently what is said of one may be stated with truth of any of the others, the difference being one of degree rather than kind. A brief summary of this action will bring the subject to our minds.

The digestive system ordinarily is not in any way affected; occasionally nausea or even vomiting may be produced.

For a short time after the ingestion of a single, moderate sized dose, vascular tension is increased, such a quantity being primarily a stimulant to the circulatory and nervous systems. Repetition, or large doses, on the contrary, lower blood pressure. Under such circumstances feeble heart's action, cyanosis, coldness of the

extremities or general surface of the body, even collapse, are symptoms frequently observed. Idiosyncrasy, or an already depressed condition of the system, are very potent factors in predisposing to these effects, facts which bear very strongly on what we have to say a little later. With repetition, also, not only do we find loss of heart power, but the constitution of the blood itself is changed. It becomes decomposed, the red cells being shrunken and crenated, the hematine separating, and the oxygen carrying power of the blood is reduced.

As would be expected the action upon the respiratory system resembles that upon the circulatory. They are sedative; and in lethal quantities the victim dies of asphyxia, due to a paralysis of the respiratory centre.

With a systemic effect we note certain phenomena in connection with the cutaneous system. Nearly always there is more or less sweating. Sometimes this is quite profuse, attended with chilliness, and it may be considerable depression. We have already spoken of the coldness of surface and cyanosis. Cutaneous rashes are not of infrequent occurrence. These vary in character. Sometimes erythematous patches—it may be limited in size and number, possibly covering the whole body—show themselves. Again, the rash may be herpetic in form. Occasionally there are large bullæ, or spots resembling pemphigus. Sometimes the rash is strikingly like the eruption of measles.

These agents, all of them, have the capacity to reduce temperature, provided fever be present at the time of their administration. In health they have little or no effect in this direction. In the febrile condition they are powerful antipyretics. The weight of authority seems to be that they lessen tissue waste. This statement applies with varying force to the individual members of the group, however. In lessening tissue waste they diminish oxidation, therefore reduce heat production. The dilated cutaneous vessels, together with the diaphoresis, favors heat loss. Consequently, with individual variations, they reduce temperature because of their power to diminish heat production, and to increase heat loss.

The action of these agents upon the nervous system is of especial interest, inasmuch as they are so largely employed in nervous troubles. Briefly stated they are sedative, especially to the sensory nerves, the effect upon the motor nerves being less marked. In full doses they depress the reflex power of the cord because of the sedative influence on the sensory nerves, as well as the receptive centres situated in the spinal cord.

The physiological action suggests the therapeutic indications. These are the presence of fever or pain. Besides these indications they have been, and still are, extensively employed for the relief of various other conditions. Sometimes disappointment has attended some of these uses. That they are capable of doing more than to reduce fever, or to overcome pain there seems little doubt, but that there is justification in many of the uses to which they have been put there is good ground for a question.

Some one has said, any agent which is capable of good has an equal power for harm if improperly employed. The history of chloral, opium and alcohol, together with several other medicinal agents, substantiates such a statement. The records are already accumulating rapidly as to the injury which may be done by the agents which we have under consideration. The medical press is continually reporting unfortunate effects. A brief mention of a few of the cases reported may not be out of place in this connection.

Mollière, in the Lyon Médical, of February 19, 1888, holds antipyrin responsible for death in two of his cases.

Barr, in the London Lancet of the same year, reports a case of puerperal fever where collapse followed the taking of thirty grains in two doses, the patient dying from syncope thirty-two hours after ingestion.

The N. Y. Medical Journal, of September 19, 1891, reports a case of poisoning in a woman thirty years of age, after a dose of twenty grains. The symptoms were those of collapse, and an eruption of white blotches. For two months after there remained great debility, palpitation, an occasional appearance of the eruption, and a peculiar weakness of the sterno-cleido-mastoid muscle.

An interesting case is given by T. S. Short in the British Medical Journal, of June 11, 1892. A professional man took five grains of antipyrin crystals, mixed with a little water, for the relief of headache due to fatigue. Two hours after there was marked flushing of the face, followed by an unpleasant choking sensation in the throat, which was soon succeeded by redness and swelling of the nose and lip. Within twelve hours herpetic vesicles appeared on the nose, lips and inside of the cheeks, the hands, feet and several other parts of the body were swollen and red; the muscles of the neck and back were stiff and painful. The herpetic vesicles discharged profusely, those within the mouth eventuating in small, painful ulcers. Under treatment these symptoms subsided in about one week, the cutaneous trouble ending with desquamation. The peculiarity of this case is that the patient had

three similar experiences in one year, and each time after taking five grains of antipyrin for the relief of headache.

The other members of the Chinolene group call for attention as well as antipyrin. Acetanilid is not without its victims. There is evidence which would seem to show that sometimes it has a cumulative action. Several cases are reported where it has caused unpleasant effects, and in the Indiana Medical Journal, of Sept., 1890, we find a case where the attending physician thinks five grains of acetanilid produced death. The patient, a woman, was suffering from neuralgia. Two hours and a half after taking the acetanilid the temperature had sunk to 97° with the pulse imperceptible. The record goes on to say, the respiration was good, feet cold, patient very restless but perfectly rational. Notwithstanding the best of care and the use of whiskey, ether, ammonia and strychina, no increase could be obtained in the heart's action. The patient died nine hours after taking the remedy. Notwithstanding such a report as this, we find in the Philadelphia Medical World, of January, 1891, a physician stating that there is great advantage in five-grain doses of acetanilid, repeated every two hours, in painful menstruation, especially of young girls. Only three months later the Times and Register, published in the same city, reports a case of poisoning by the use of three five-grain doses, in a woman thirty-seven years old.

A case of phenacetin poisoning is reported in the Medical News, September, 1889. The patient, a woman, after three seven-grain doses of phenacetin, suffered from severe præcordial pains, great dyspnœa, lividity of the whole surface of the body, and a state of collapse. She slowly regained consciousness under stimulation, but could not be about for a week.

In the N. Y. Medical Journal, of October 17, 1891, we find an editorial account of a case of antikamnia poisoning. A woman, twenty-two years old, apparently healthy, weighing 165 pounds, took twenty-four grains for a slight headache, without a physician's advice. Shortly there was acute delirium, followed by loss of consciousness, ending in fatal coma, about ten hours after the ingestion of the drug. Post-mortem examination failed to discover any organic lesion to account for death. The body was cyanotic, and there was marked venous congestion of the membranes of the brain. The victim evidently died at the heart.

Such is some of the literature we meet regarding these agents. These cases are not selected because they are especially extreme. They are not extreme, but rather, representative of the untoward symptoms observed in certain individuals. As already stated, the

number of cases actually reported is quite large. How many more instances of unsatisfactory action never come to public knowledge because of failure to report, we can never know.

In my own experience I have seen five-grain doses of antipyrin, repeated every four hours, produce great cardiac weakness, which gradually disappeared with a discontinuance of the drug. In six instances cutaneous phenomena have been noted. Antipyrin seemed responsible for erythematous patches in two cases, and caused a rash resembling measles once. This latter rash followed the administration of acetanilid twice. In one of these cases, about five hours after taking a single three-grain dose of acetanilid a measly rash appeared upon the face, trunk and extremities, which lasted about thirty-six hours, when it subsided without further symptoms. Two ten-grain doses of phenacetin at a four-hour interval occasioned a similar rash in another case.

The facts which we have enumerated furnish material for our careful consideration. Observation would seem to warrant the statement that these new remedies are frequently employed unwisely. The quite common use by the laity, without medical advice, and the public sale for the relief of headache, neuralgia and other troubles, cannot be deprecated too strongly. It is our duty as physicians to warn those who look to us for advice of the risk which attends such a use, and to retain within our own control, as far as possible, the administration of agents capable of doing so much mischief. I believe the doses often recommended are too large. Frequently a smaller quantity will act just as efficiently, and is much safer.

Their use for the relief of dysmenorrhœa appears very questionable. At best they are simply palliative for this condition, and the occasion for their repetition occurs too frequently to be safe. Individual administration constitutes one danger; furthermore, the number of cases of poisoning occuring at this period would tend to show that at the menstrual epoch women are especially susceptible.

In the treatment of fever these remedies have been extensively employed. If judiciously used they are capable of great good, but they have an equal power for harm when not indicated. Where fever is due to a specific cause they have no curative influence. Here they are simply useful to keep the temperature within safe limits, and for this they frequently avail, but they are powerless to shorten the duration of the disease. A foreign writer, in speaking of the use of acetanilid in typhoid fever, advises the administration of 7 1-2 grains when the temperature goes above 38° C. (about 100 1-2° F.), and a second dose in 15-30 minutes, if

it rise above 38.5° C. Such practice I believe to be bad. A temperature of such a height does not constitute a danger in this disease. The treatment would do infinitely more harm in the way of producing depression. Much better employ water for its antipyretic and soothing effects. Two elements of danger in typhoid fever are hyperpyrexia and cardiac weakness. To my mind moderate fever does not call for special treatment unless it continue for too long a time, and depressing antipyretics are harmful. Rather reserve their use until the height of temperature calls for interference, then employ only enough to bring it down to a proper degree, and withhold further administration until there is another rise. Roughly stated a temperature less than 103° F., during the middle course of a typhoid fever, need not occasion any particular alarm. If the heart has been weakened by depressing remedies convalescence is frequently prolonged. Many cases do not call for a single administration of antipyretic medicine during their whole course; with good nursing and proper support they do much better than with meddlesome treatment. What is true of typhoid fever applies to their employment in any disease where there is loss of heart power. We should remember the danger and use them tentatively.

In concluding this cursory paper I do not wish to be understood as decrying these most valuable medicinal agents. This is not the intent, but rather to call attention to some of their dangers. They are depressants themselves, and have the power to weaken an already feeble heart. There is plenty of evidence to show that a depressed condition of the system predisposes to some of the accidents which we have enumerated. Idiosyncrasy also plays a prominent rôle in this direction. Whether they have a cumulative action, or whether they are transformed within the system into such compounds as to act as poisons, is not determined. Therefore prudence suggests care in their employment.

The discovery of these modern antipyretics is a great blessing to mankind. They are potent remedial agents, and when indicated we should employ them, always remembering our responsibility and the medicine's possibility. Meet the indication and overcome the contra-indication, if such there be, as best we can.

DISCUSSION.

Dr. Henry Conkling.—Professor West, in the paper which he has presented to the Society, has very graphically pointed out some of the proper therapeutics of the new antipyretics. Perhaps

a report of some cases agreeing with the dangers which he has pointed out and perhaps presenting some new uses, may not be out of place.

Some three years ago I became dissatisfied with the duration of time required for recovery from erysipelas. I had used applications of nitrate of silver, ichthyol, and the muriated tincture of iron, and the internal use of the tincture of iron in large and frequently repeated doses demanded in the majority of cases some preliminary treatment in the way of preparation, and if continued, sometimes gave rise to unpleasant symptoms. In one case which presented itself, where a number were being studied under my care, one half of the face and part of the scalp was involved, with the usual conditions of the external ear. The patient was a traveling salesman; his heart, kidneys, and blood-vessels were in a normal condition; pulse of great strength and large volume; temperature 105°. I gave him a dose of calomel and had him apply a soothing lotion of lead and water, and then directed five grains of antipyrin every three hours night and day. At the end of twenty-four hours the interval was increased to four hours; at the end of forty-eight hours the night interval was made eight hours, so at the end of the treatment he received five grains of antipyrin five times a day. If the temperature came down to 98.6°, the next dose was put off for an hour, and toward the end of the treatment for two hours. The case was a very severe one, but at the end of six days all the local inflammatory conditions entirely subsided and the patient was convalescent. Since that time, in this class of severe cases of facial erysipelas, I have given antipyrin in repeated and frequent doses. It is necessarily a depressing line of treatment, but *the depression is always within physiological limits.* The patient is quieted and soothed by the drug, the local pain is relieved and the delirium has not been encountered. By this method the duration of the treatment has been reduced three or four days, which I proved by treating two cases at the same time, one with iron and the other by the antipyrin method; also by comparison with former cases, and by watching other lines of treatment in the hospital.

The principal idea has not been reduction of the temperature. The main idea has been merely to reduce the number of beats of the heart, to lessen the force of the cardiac contractions, to diminish the amount of blood in the vessels and so affect the circulation in the diseased part. When the antipyrin is stopped the patient convalesces and no further treatment is required for the skin to get in normal condition, as happens when remedies are used that

destroy the cuticle. No fear comes from too great depression in the use of the drug. If antipyrin is to be used in any case the heart should first be carefully examined. *If aortic regurgitation or stenosis or mitral regurgitation be present the drug cannot be used; if the patient be old and feeble, if there be cardiac dilatation, or if the case be one seen late in its history, of course the remedy here is the worst one to employ.* The typical case is one that is seen early, from twenty to forty years of age, where the pulse is best described as "full, hard and bounding."

Of the new antipyretics the one that has been of most service to me in my work has been phenacetine, which has also been very valuable as a substitute drug. By that I mean a drug that takes the place of other drugs in well-known diseases, and which works better than the original drug itself. It is beneficial in the treatment of the early stages of pneumonia, especially of the pain in pneumonia and pleurisy. In treating pneumonic pain, if I may use the term, which means pleuritic pain, it has been customary to give the patient some preparation of opium or morphia. That treatment of opium is scientifically correct but clinically is a very dangerous practice, particularly if many hours elapse between the visits to the patient. Phenacetine will stop the pain better. At the same time I am strongly convinced that pain in pneumonia will take care of itself. The pain in commencing pneumonia is due to an inflamed condition in the pleura which is at the base or sides of the sulci of the lung, a condition which I have demonstrated in the dead-house again and again. Only last Thursday I made a post-mortem which represented that beautifully. I found at the base of the sulcus in the left lung, a strip of fresh pleurisy two inches long and one inch wide. The pain will take care of itself on account of the changed condition of the anatomy that comes with the disease. If a healthy lung, in which the pleura is smooth and glistening, be laid on a flat surface the sulci will part and a concave surface will be seen, making larger the space caused by separation. If a pneumonic lung weighing forty to fifty ounces, even where no pleurisy in the sulci has existed, be laid on a flat surface it will keep together because pressure behind, in filing up alveoli, has caused the parts formerly concave to come in contact, motion is prevented and no pain results.

Opium has the power of paralyzing vaso-motor dilating nerves and so contracting vessels, but it is a most dangerous drug to use, for we are dealing with an acute affection of the whole respiratory tract, and unless early in the disease and the drug be watched carefully it is most dangerous. Only three days ago I saw an instance

of the dangers of opium for the relief of pneumonic pain in a hospital patient. The patient had been taking it three days before admission and it produced a most dangerous condition. The substitute drug in that case would be phenacetine, which would do the work better than the opium. Surgeons tell us that we can accomplish the same result with cold water and hot water; that the hot will dilate the vessels and the cold contract them, and so get rid of the blood in the diseased part Phenacetine reduces pain, dilates the vessels and sends the blood to other parts and so relieves the local congestion.

In incipient pneumonia and pleurisy I have employed phenacetin as a first remedy, which answers the subjective conditions well and is safe.

I have met no cases of fatal antipyrin poisoning, but I have seen antifebrin act fatally. In the case of a young man suffering with enteric fever at the eighth day, three-grain doses of antifebrin were repeated every five hours. Two hours after the second dose he presented all the manifestatons of severe poisoning by the drug, with inflammatory condition about nose and mouth, and died in a short time. Probably some idiosyncrasy in the patient would account for it. I have read lately of cases where salol had been supposed to be the cause of death in a sudden manner in patients up and about. I agree that salol would be depressing if the conditions in the patient were of such a type as to be marked by cardiac weakness or degeneration, or where the disease was of long standing, and the conditions became of the asthenic variety, but I have been inclined to believe that where salol is given for some gastric or rheumatic trouble and acts fatally, there will be found some disease of the coronary arteries with a general arterio-capillary fibrosis, and the presence of the drug is a mere coincidence.

The President.—Did Dr. Conkling refer to the use of antipyrin in cases of idiopathic inflammation of the skin?

Dr. Conkling.—I referred to the cases which we would call "medical erysipelas," where there is no abrasion.

Dr. Eliza Mosher.—I would like to say a word about the use of acetanilid in dysmenorrhœa. I have had quite a large experience in the use of this drug, especially in cases of congestive dysmenorrhœa, with very excellent results and without any harmful results. I have used it in several hundreds of cases and in no way have I seen any bad results from it. I have adopted the plan of giving a prescription for it, to be bought at the drug store, not more than six 3 or 5 grain powders. Lately I have adopted a better plan, and that is of having

the powders ready and giving them myself without a prescription, so the patient will not be able to prescribe them for herself and her friends. I think that is a point which it is very well for us to consider—the advisability when we give the drugs to walking patients, that we shall not give them the prescription, but if possible prescribe from our desk the number of powders which we wish them to use for one period. If it is for dysmenorrhœa they are given three or four powders and given instructions that only three powders be taken in one day, under no conditions more. I think it extremely important that we shall in the first place keep the prescription out of the hands of the public, or if we do we shall give very few powders at one time and be careful to give directions explicitly that only three powders be taken in one day.

Dr. A. T. Bristow.—I would like to say a word in regard to the distinction which has been made between medical and surgical erysipelas. I understood Dr. Conkling to say that he used the antipyrin treatment of erysipelas only in what he called the medical variety of the disease. Bacteriologists are generally agreed that the streptococcus pyogenes is the organism of erysipelas. There is no case of erysipelas in which that organism cannot be found in the inflamed border of the spreading inflammation. I do not think it makes any difference whether the organism has gained entrance through a wound made by the surgeon's knife or otherwise, and I think it is very doubtful as to whether there is not always in cases of erysipelas, a trauma, however minute. In cases of so-called medical erysipelas it is probable that the germ gains access through the sweat glands. It does not take a large wound to inoculate a patient with erysipelas. It may start from as insignificant a lesion as a mosquito bite. The high temperature and other symptoms of the disease are symptoms of ptomaine poisoning, and we all realize the paralyzing effect of these poisons on the heart. I may be excused, therefore, if I can hardly agree with the doctor in recommending such a drug as antipyrin in cases of erysipelas.

The great father of modern medicine, Trousseau stated the modern treatment of the disease when he epitomized it in two words, food and stimulation. I have not read his article for a number of years, but his cases of erysipelas did best on a supporting treatment and the use of alcohol, without any medication whatever. Of course the modern treatment of a line of incisions around the border was intended to check the spread of the microorganism, so too, the line of tr. iodine and the method of demarcation by strapping, but I think the treatment by antipyrin is to

ignore the ætiology of the disease, and I believe there is absolutely no difference ætiologically between the so-called medical erysipelas and surgical erysipelas, except in the manner in which the organism gains admittance to the blood-vessels. In the erysipelas of wounds you have besides the streptococcus, possibly, the other microörganisms of suppuration in the blood, and consequently more organisms to fight. I do not believe there is any such thing as medical erysipelas, as distinguished from surgical. In one case we are unable to trace out the point of infection. In the other we find it in an open wound. The same coccus is the mischief-maker in both.

Dr. Evans.—I have had little experience with the more modern antipyretics, except in a limited number of chest affections. I have prescribed them in the rapid type of phthisis, to control the temperature as well as to modify the bounding character of the pulse. At one time I used these preparations quite extensively, believing that the more tissue I could save my patient, the greater would be the margin in point of time, in which to arrest the disease. At the present time, however, my use of these antipyretics is not so great. I am convinced that a high temperature is not, in itself, of so much importance as the conditions with which it is frequently associated, viz.: cerebral excitement with rapid nervous and cardiac exhaustion, conditions which have the same cause, but are not dependent upon rapid tissue oxidation. The best antipyretic to use under these circumstances is the cold water bath, by its means we may be able to reduce the temperature, and, at the same time, mitigate the other conditions. The successful treatment of typhoid fever by the cold bath, particularly in Germany, seems to bear out this contention.

Dr. Charles Jewett.—We are easily captivated with new drugs, as the extensive use of coal tar antipyretics goes to show. Every drug, however, its a two-edged sword, and we are apt to know more of the good than the bad effects of new remedial agents. Valuable as the agents under discussion are, their benefits are purchased at the cost of more or less injury to the blood and the tone of the heart muscle. Allusion has been made to valvular disease of the heart as a contradiction to the use of the coal tar antipyretics. I think we should look more to the condition of the cardiac muscles than to the valves. Antipyretics are especially liable to abuse. It is an open question how much real gain is accomplished by reducing temperature. There is an apparent advantage in reducing very high temperatures to 103° or lower; the patient is made more comfortable and everything looks better to the friends.

That any substantial improvement has been accomplished is, in most cases, doubtful.

In regard to the treatment of sepsis I was glad to hear the writer of the second paper condemn the use of antipyretics. At the beginning of a puerperal septicæmia or other septic process the diagnosis is a matter of doubt, and the use of other antipyretics simply masks the disease and misleads the practitioner until too late for successful treatment. At later stages he is equally in the dark as to the course of the disease. The other method advocated in the surgical paper I can heartily indorse, that is the use, particularly in peritoneal sepsis, of intestinal drainage by saline cathartics. The active agents, the chemical poisons in solution, are carried off by hypercatharsis. So are the fluid accumulations in the peritoneal cavity which furnish the material out of which the poisons are made. This measure is valuable, too, before sepsis is established as a prophylactic to carry off the fluids which may furnish the soils for the growth of septic organisms.

Dr. J. M. Van Cott, Jr.—Some one accused me once of being too fond of polemics. I hesitate somewhat to express an adverse opinion, but I must say I hardly agree with the gentleman who has just taken his seat. I think there are a good many cases of sudden death in acute disease, certainly of specific origin, which are the direct result of ptomaine poisoning, either of the muscular structure of the heart or the ganglia which control its action. As erysipelas is the result of a coccus, I certainly think the patient is subjected to the poison of its ptomaines and I think any remedy known in our therapeutics which causes cardiac depression is dangerous. I am quite clear that there is no distinction between idiopathic and surgical erysipelas—that they are one and the same thing. The term idiopathic is becoming obsolete and is now admitted to be not scientifically accurate. There is, in my belief, no such disease as the term idiopathic would imply. I trust I shall not be considered personal in my remarks. I mean that scientists all over the world are beginning to recognize the admission of our own ignorance as conveyed in that term. My belief as to the proper treatment of erysipelas is to pursue somewhat the plan which Dr. Fowler has mentioned this evening. When the body is the seat of an infection from ptomaines the first desideratum is to eliminate them, and the second to antagonize the growth of the organism producing the ptomaines. It has been proven that erysipelas can be cured by cross hatching around the erysipelatous area, and the application of remedies locally which will inhibit the spread of the germ.

Dr. Frank E. West.—The hour is getting late and I do not wish to keep you many minutes. I would simply say that if the attention of the Society has been called to the dangers of some of these valuable drugs, for I certainly consider them valuable drugs, my object has been attained. I purposely refrained in my short review of the subject from discussing the various uses of these antipyretics. I simply wanted to call attention to the responsibility that we assume in prescribing these drugs. These agents have been used in innumerable diseases, they have acted brilliantly in many instances and consequently the profession has been led to employ them. Each one as it has been introduced has been claimed as safer than any that have preceded. First antipyrin, then antifebrin, acetanilid, phenacetin, salol, kairin, and a very large number of proprietary preparations such as antikamnia, cephalalyine and pyretine. Last of all comes phenocoll, which is claimed to be safe and unattended with any of the disadvantages of some of the others; nevertheless in the very short time it has been known, there are reports of its unsatisfactory action, an action such as was alluded to in connection with salol and is probably due to its composition. Salol is simply salicylate of phenol, and it is the carbolic acid which acts as a depressant to the heart.

In sthenic erysipelas, whatever cocci it may be due to, acetanilid has been extensively used, and its action has been exceedingly satisfactory in many instances. Notwithstanding this statement there are some cases of erysipelas where the records show unpleasant symptoms following its use.

The question of these agents as analgesics brings up a very important matter, it seems to me, for us to consider as physicians. They act as analgesics; probably being most efficient for the relief of superficial pain. In deep seated pain, pain due to organic trouble they have little or no power, but they are effective where the pain is superficial, the peripheral end of the nerve being especially involved. Because of their acting so satisfactorily in pain they have been largely employed and the temptation is to prescribe them. Unfortunately the public has gotten hold of the fact and the consequence is that it is not an unusual story for us to hear, when a patient presents himself or herself for advice for the relief of headaches, or neuralgia, or other pain, that they are in the habit of taking so many grains of antipyrin, phenacetin, and what not. As Professor Jewett says, they are two-edged swords. If they are capable of doing good in the way of relieving pain, they are also capable of producing, to my mind, exceedingly serious

and grave nervous disturbances if their use be continued and persevered in.

Now I think you will all agree with me, that during the past three or four years, phenacetin, antipyrin and acetanilid were perhaps prescribed as often during December, January and February, as almost any individual drugs in the pharmacopœia, that is during the prevalence of la grippe. They were looked upon as agents that were capable of relieving many of the phenomena which presented themselves in connection with this epidemic.

It is a well-known fact to us that nervous phenomena of various degrees and characteristics have been observed in connection with the victims of the grip. More than that, a dilated condition of the heart is a very common condition to find in those who have suffered from this affection, a dilatation due to loss of tone in the muscular fibre, independent of any valvular lesion whatever or other organic change. Now may we not fairly ask the question, is it possible that the agents which have been employed so frequently have any influence in producing these conditions? I think it is a fair question, and not a one-sided one.

With regard to the use of these agents in fever, as has been said, I think the elevation of temperature or the presence of fever is a much greater bugbear than it should be. I have ceased to allow my thermometer to worry me and keep me awake at night, as it did a few years ago. The presence of an elevated temperature is simply an expression, and if we merely depress that temperature we are simply treating the symptoms. The point is to get at the cause that gives rise to temperature, and remove that if possible. If we can do that, the degree of heat will take care of itsef. Of course there are times when the degree of heat is exceedingly dangerous. Just as headache which is very severe must be relived to give the patient comfort. When fever constitutes a danger we are called upon to relieve the high temperature, but in doing this we must not employ remedies in such a way, or of such a potency, or in such a dose that we are jeopardizing our patients. What I would condemn, in as strong and positive terms as I am capable of, is the continuous administration of antipyretics for the reduction of temperature. In continued fevers due to specific causes the disease will run a definite course in spite of any antipyretic used.

OUR DISPENSARIES, HOSPITALS, PHILANTHROPY, FRAUDS, AND THE NECESSITY OF MEDICAL REFORM.

BY LOUIS F. CRIADO, A.B., M.D.

Read before the Kings County Medical Association, March 14, 1893.

Mr. President and Gentlemen:

In conformity to the unbiased constitutional laws of this favored republic, to each and every citizen thereof not alone is the humane privilege of freedom of thought accorded, but, moreover, its natural sequence, the *freedom of speech.*

Inasmuch as I am about to take into consideration a subject which to some might prove of interest and a source of relaxation from our customary and persistent discussion upon the art of healing, and to others an apparent affront bordering on our most seclusive and foremost prescribed system of medical etiquette, I beg to suggest that it is not my deliberate intent to become a Jonah, as such ingested by the medical profession, and in pursuance of the narrated event thus subject myself to an *undeserving penalty* for the unphilosophical motive that my capricious judgment and lawful privilege of freedom of speech should have proven an offending or indigestible agent.

The problem which I deem it my privilege to present to you, is that which most obviously and inevitably suggests itself to us at an earlier or later period, which we conceive but carelessly and wilfully neglect from committing to our united judgment, and for which reason our most indispensable services are generally welcomed with diffidence, our knowledge judged frivolous, and the profession generally as mostly composed of half-witted, antiquated, ceremonious extortionists, notwithstanding that *in articulo mortis* we are deemed *the most desirable* and *trusted friend.*

It being possible that the aforesaid facts might be attributed to the "ignoramuses," and that by such a term it be inferred the poor and necessarily the less educated members of our worthy population, I herewith beg to repudiate the supposition, for the reason that the very opposite condition of affairs is the one made most evident to us. The inference might more properly be assumed to designate the wealthy class of our population, for notwithstanding their many natural advantages, it is nevertheless a fact that the

due respect and consideration to which every worthy physician should be justly entitled is more valued and appreciated by the former than by the latter, so-called *the better class.*

The struggle for existence is becoming thus severe amongst medical men, and its causes are *thus* apparent, that we should *not only in behalf of the needful younger members of our profession,* but *likewise* in that of fifty per cent. of *our older ones,* venture into that unwholesome condition of affairs which may appear to us the necessary or unnecessary unprofitable evil.

In an article published in the New York Medical Journal it appears that "in a recent address to medical graduates the Rev. Dr. Alexander very pertinently remarked that the physician's first duty to society was to make a living and keep out of the poor-house." It is furthermore stated: "The philanthropic idea is stronger in medicine than in any other calling, except perhaps that of the clergyman. But the doctor must pay his taxes or rent." (It should have been stated, his taxes *and* rent, in contrast to the clergyman, who does not pay taxes, rent, *nor* for medical attendance!) "He must eat, drink and be clothed; he must be supplied with instruments and books; he must support his family and educate his children. The effusive thanks of grateful patients do not, unfortunately, pay his bills. Fees alone will do that," etc., etc. It is often contended that human nature is a perplexity, but withal, would it not seem equitable to assume that the very pertinent and suggestive remark that "the physician's first duty to society was to make a living and keep out of the poor-house," is indicative of a thorough knowledge of our ridiculous philanthropy and suicidal eccentricity in being not only too willing, but moreover, desirous of becoming actively associated with one or more of our many hospitals or dispensaries *without* the least expectancy of compensation, but, nevertheless, in the *tempting delusion* that we might thus secure the *nucleus* of a remunerative practice?

Are we ignorant of the fact that there are in this city of 806,343 inhabitants, irrespective of hospitals (amongst the many we have, by the way of variety, one Chinese hospital and dispensary; furthermore, two new institutions have been promised; one to be known as the German Hospital, the other, as the Keeley Cure Free Hospital!) about 30 dispensaries, dependent on the *inexpensive goodwill* of, approximately 250 benevolent physicians, or one-fourth of the entire number of the medical men residing in this city, and who hopefully await the compensative opportunity to exercise their knowledge? Are we ignorant of the fact that the yearly number of patients that receive gratuitous medical advice in these dispen-

saries averages about 140,000, or one-sixth of our entire city population, and that many more thousands are treated (?) over the counter by speculative druggists, who do not hesitate to pretend the knowledge of the physician, and thus *knowingly* and *wilfully* violate the law?

Are we ignorant of the fact that at least sixty per cent. of those who receive gratuitous medical advice at our dispensaries are *well-to-do imposters*, who do not at all consider it humiliating to mingle with the deserving poor for the most obvious reason, notwithstanding that in most instances they are wealthier than the dispensary physician to whom they fraudulently appeal for the relief and cure of the many physical ills that assail humanity?

Are we ignorant of the fact that the amount of work that we accomplish is not indicative of our income, inasmuch as our average collection for services rendered might be justly estimated at about fifty per cent., and that in due consideration of our comparatively limited fees and the *undue encouragement of the well-to-do dispensary imposters*, it has become absolutely necessary for physicians generally to adopt the strictest economy or to overwhelm their ingenuity with all the fraud possible in order to attain the most essential necessities of life?

Are we ignorant of the fact that many deserving physicians are necessarily obliged to accept the paltry sum of fifty cents as an adequate compensation for services rendered at the residence of patients, and likewise to welcome the appointment of examining physician to one or as many more of our well-known, *bob-tail, beneficiary societies*, in consideration of the medical examiner's fee of $1.00, for which sum, in many instances, the successful candidates are duly entitled to summon and engage at *any time* the services of their respective medical examiners during the period of one year?

In what does that peculiar oddity of a physician's learning consist that, unlike other professions, it should be *thus free* and *promiscuously offered*, notwithstanding the recognition of our many wants and the well-being of our families? Are we differently constituted, *mentally* or *physically*, from men in other professions, or must we admit that our antiquated, so-called philanthropic predisposition is the thoughtful device by which we have hoped to attain a remunerative practice, in view of the fact that our own misdoings have led the wealthy and religious to disregard the physician who exercises the least discrimination between *the deserving poor* and the *apparently poor*, but nevertheless well-to-do imposters.

The medical profession has never otherwise than acknowledged

that the unfortunate poor are certainly worthy of consideration, and that they should, therefore, be gratuitously welcome to our services, *irrespective of religion and nationality;* but we should likewise make it known that physicians are under no obligation whatever to deprive themselves and their families of the remuneration justly due them from the well-to-do imposters who patronize and yearly increase the percentage of our free dispensaries, and who, with the public generally, believe that the services of the physicians in attendance at *any* and *all* of our city dispensaries and hospitals are *paid for* by the city, or else by some wealthy, benevolent societies or corporations; whereas, it should be plainly understood; firstly, that said physicians *do not* receive the least compensation for the dispensation of the aforesaid services. Secondly, that it is but just that the well-to-do imposters should be promptly eliminated from our charitable dispensaries and hospitals for the most obvious reasons. Thirdly, that our requests for the due payment of debts contracted in exchange for our stock in trade (the knowledge which we have attained by years of hard study and at an outlay of many hundreds of dollars), should be promptly and faithfully complied with, for the reason that with all our charities our fees are not as exorbitant as those of the dentists for their mechanical treatment; of the lawyers for their interpretations of the law and their judgment; nor of the *clergymen* for their religious opinion; and moreover, for the most evident reason that we cannot be accomplished physicians unless we have at our disposal the necessary funds with which to purchase medical journals, books, instruments and our many more indispensable educational necessities!

To our present and most indiscriminate system of gratuitous medical service might we not only ascribe the very unjust criticism to which we are frequently subjected, and the inconsiderate recognition with which the public has acquainted us, but moreover, the unprofessional demoralization and dishonest principles into which we are necessarily leading one another in pursuance of the judgment that *the physician's first duty to society is to make a living and keep out of the poor-house.*

It is said that a systematic Irishman in writing to one of his sons who had emigrated to this country, concluded his letter with the following advice: "And now, Patrick, that you have gone to America, make all the money that you can honestly; *but* if you can't, w-h-y, make it anyway, or the devil take you!" When recent medical graduates in the midst of their glory and expectations triumphantly forsake the friendly welcome of their respective

institutions of learning, rejoicing at the vain flattery of their public congratulations by methodical professors, and innocently venture with the most solemn honesty and eager philanthropy into the practical exercise of their theoretical knowledge, they absolutely ignore the fact that the physician's first duty to society is to make a living—that they should secure all the wealth possible *honestly*, but that if they cannot, w-h-y, that they should secure it anyway in order to "keep out of the poor-house," or else "the devil take you!"

But such, indeed, are the hidden mysteries with which we necessarily become acquainted at the expiration of that appreciable period of ten or more years of practical experience and disappointment, inasmuch as we do not until then fully realize the folly of our child-like, suicidal philanthropy, and the trifling consideration and ingratitude of the community at large; a fact well illustrated in one of the Boston medical and surgical journals, in which it is stated that a physician was called to a family whom he found in such destitute circumstances that he gave, in addition to his prescription, a five-dollar bill, and that happening in the next day he discovered that his gift had been thus spent: three dollars to the priest, and two dollars to get another doctor!

It is proverbially claimed that necessity is the mother of invention; likewise that necessity makes the thief; with the medical profession however, necessity is not the mother of invention, but the *inventive genius* of the most *audacious misrepresentations* and *intentional fraud*, with which we might advantageously acquaint the younger members of our great army of delinquents.

Is it due to ignorance or to the stratagem of necessity that *catarrhal pharyngitis* or *simple tonsillitis* is mistaken or intentionally misrepresented to be *diphtheria;* likewise *pleurodynia* to be *pleurisy; acute bronchitis, pneumonia; chronic bronchitis, incipient* (?) *phthisis; acute indigestion, peritonitis; measles, scarlet fever; lumbago, incipient* (?) *Bright's disease,* or more frequently, possibly, indicative of a *uterine* or *ovarian* disease, *invariably* requiring an examination, a subsequent prolonged period of treatment or a *surgical operation?*

Is it due to ignorance or to the stratagem of necessity that consultants will venture to suggest *unnecessarily* the questionable addition or substitution of remedies with the most unexpected assumption of superiority, arrogance or otherwise, and studiously remark on being questioned by anxious relatives, that the physician in attendance has done very n-i-c-e-l-y, but that it is but just and fair that it should be understood that the patient's life is most seriously compromised, that the medicines suggested might possibly over-

come the greatest difficulties notwithstanding the very advanced stage of the disease, inasmuch as in his experience they have rarely proved otherwise than beneficial, particularly if prescribed at an earlier period, etc., etc.

Is it due to ignorance or to the stratagem of necessity that the physician summoned to attend to other's patients or whose patients they were, will not only *unhesitatingly* prove himself at variance with the original diagnosis, and thus *invariably* with the treatment, but moreover, indirectly volunteer the most ingenious series of *unfavorable* comments? Finally, is it not due to the necessity of stratagem that the medical profession is becoming *thus dishonest* and *intriguing*, notwithstanding the *falsity* of our most apparent courtesy and pleasing etiquette towards one another?

In view of the non-evasive rehearsal of the facts which I have deemed it my privilege to present to you, I would respectfully suggest that the medical profession should awaken from the perpetual sluggishness and apparent lassitude or indifference which have heretofore characterized it, with the object of *enacting*, *promulgating* and, if necessary, of *having legislated* the reform by which we might overcome in the most judicious and honest manner the difficulties that confront us, not alone in our own behalf, but in that of our deserving families and of the inconsiderate public. With this object in view, and in the hope that I might energetically stimulate the interest and *good judgment* of every thoughtful member of the medical profession, I will venture the following suggestions, to wit:

With reference to our dispensaries:

1st. That no physician should be deemed qualified to serve in any dispensary unless he or she shall have passed a fair and honest competitive examination, and that said appointments should receive due consideration in their respective order of merit.

2d. That physicians thus qualified and appointed to serve, should be justly remunerated by the *so-judged charitable* and *magnanimous* dispensary trustees, from an adequate city appropriation thus directed by special Act of Legislature, or otherwise.

3d. That the period of said appointment should not exceed three years.

4th. That at the entrance hall and in every dispensary room occupied by physicians, a large placard should be displayed in a conspicuous place, making it known that the institution is intended for the care of the destitute and poor *only*, and that all persons applying thereto for gratuitous medical advice possessing or being able to realize the sum of $250, or more, will be deemed guilty of fraud and misrepresentation, and prosecuted accordingly.

5th. That amongst other things, it should be the duty of all dispensary physicians to ascertain by direct questions the circumstances of every individual applying to them; to enter the replies to such inquiries in whatever ledger be appropriate, together with the name, address, nationality, diagnosis, treatment, etc., etc., of said applicants, and to assist in the prosecution of all deemed guilty of fraud and misrepresentation.

6th. That any physician convicted of soliciting dispensary patients for his private practice should be dishonorably discharged, and henceforth disqualified from serving *in any dispensary or hospital.*

With reference to our hospitals:

1st. That no physician should be deemed qualified to serve in any hospital unless he or she shall have passed a fair and honest competitive examination; that said appointments should receive due consideration in their respective order of merit, and that it be required that all candidates shall have graduated at least three years previously.

2d. That physicians thus qualified and appointed to serve in hospitals for *non-contagious diseases* should serve without compensation, and that the period of appointment should not exceed three years.

3d. That physicians thus qualified and appointed to serve in hospitals for *contagious diseases* should be justly remunerated for their services, and that the period of appointment should not exceed eighteen months.

4th. That the appointment of house surgeons or physicians in hospitals for *non-contagious diseases* should be continued under the present system, in consideration of board and lodging.

5th. That physicians appointed to serve as house surgeons or physicians in hospitals for *contagious diseases* should be justly remunerated for their services.

The advantages offered by the aforesaid suggestions might concisely be summarized as follows, to wit:

1st. That *old, young* and *recent medical graduates* would be equally privileged to enter into an honest, competitive examination for appointment in any dispensary, and thus be enabled to have the opportunity to earn the just remuneration, and oftentimes required contributive, pecuniary assistance for the period of three years.

2d. That by eliminating the well-to-do imposters from our charitable dispensaries, not only would we be enriched by at least forty per cent. of the amount that we are continuously defrauded of, but moreover said dispensary physicians would be *enabled* to

devote *the proper attention* and *time* due to the deserving poor with the least possible speculative temptation of soliciting dispensary patients for their private practice.

3d. That the requirement of a competitive examination for appointment in any dispensary or hospital would readily overcome the friendly tendency of *favoritism* or *cliques*, and more so, of *monopolization*, inasmuch as it is not only detrimental in general to the profession, but likewise to the community at large, that physicians and surgeons have *thus* been appointed five, ten, twenty or thirty years ago, should withal persist in retaining said appointments *forever and amen*, until the day of judgment. There is no acceptable reason or excuse whatsoever for our present forbearance of such a monopoly, inasmuch as in *every instance* practical experience and continuous observation would certainly tend to improve the knowledge of the *otherwise most ignorant* who become thus *undeservingly* associated with a certain dispensary or hospital, or with as many more as possible, attaining reputation and *popularity through the advertising medium of the freely distributed annual reports of said institutions.*

4th. That the practical knowledge attained at a hospital in the capacity of physician or surgeon during the appointed period of three years, should be deemed an adequate compensation for services rendered in hospitals for *non-contagious* diseases.

5th. That physicians and surgeons desirous of prolonging their term of dispensary or hospital service, for reasons which might be best known to themselves, would be necessarily obliged to undergo *another competitive examination*, and thus deservingly and honorably secure the appointment which was openly tendered to the most worthy and successful competitive candidate.

6th. That with the very incomplete enumeration of the facts and suggestions herein *submitted to our united consideration and judgment*, we might possibly become less *promiscuous* in our philanthropy; more *conscientious* in all our charitable undertakings; *wiser* in our own behalf and for the well-being of our families; more *friendly* and *honest* towards one another in our professional intercourse and good-will; and *henceforth*, *deserving* of the *full confidence* of the community, by not permitting ourselves to be led astray by the few monopolists who have profited at the expense of our apparent simplicity.

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EDITORIAL.

ATTACK ON THE CIVIL SERVICE LAWS.

Governor Flower is deserving of the thanks of the medical profession for his veto of the bill which exempted physicians from the provisions of the Civil Service laws. The bill referred to was designed to allow the appointment of physicians in Brooklyn to public positions without requiring them to pass the examinations prescribed. The bill had never been presented to the profession for its approval, nor was it known to any, except perhaps a favored few, that such a bill was even contemplated. It would, of course, be derogatory to the dignity of the medical profession were it asked to submit to examinations when no other class was required to do the same thing, but inasmuch as the law applies to all alike, it seems like a confession of weakness to ask to be made an exception to its provisions. We doubt if there are any stronger supporters of the Civil Service principles than are to be found in our ranks, nor will there be found anywhere those who will sooner come to its support, when it is assailed.

WHAT IS AN EXPERT?

The Supreme Court of Illinois gives a definition of a medical expert which is so matter-of-fact that we take pleasure in reproducing it for the benefit of our readers. The Court says: "A practicing physician who is shown to be a graduate of a regular college and to have practised his profession for many years, is competent to give his opinion upon a hypothetical question, setting forth the symptoms of a deceased person, whether the death was from the effects of arsenical poisoning, although he may not be shown to have had any case of such poisoning. A medical witness, in giving his opinion as an expert, is not confined to opinions derived from his own observation and experience, but may give an opinion based upon information derived from medical books."

MEDICAL EXPERT EVIDENCE.

The Society of Medical Jurisprudence of New York has recently been engaged in the discussion of the subject of medical experts' evidence. Dr. Landon Carter Gray read a paper on this topic at the April meeting, in which he said, in speaking of the prejudice against experts: "One way to remedy this evil would be to ask each medical expert, while on the stand, for his professional opinion of the other experts, but this plan would not do because of the cry of 'professional jealousy' which would be raised. Another way would be to show the competency or incompetency of an expert by a rigid cross-examination. Another plan would be to bring outside doctors to establish the reputation of the experts; but it would be difficult to get men to come forward and give the desired testimony."

He suggested the following plans: First, in trials not by jury, let the judge select one or more competent experts to sit with him on the bench in an advising capacity; second, in trials by jury, let the medical experts called on both sides hold a conference before the trial, so that they can agree on the facts from which they are to be asked conclusions.

Our readers will remember that this whole subject was gone over most exhaustively by the Medical Society of the County of Kings in 1891, and it seems to us that the conclusions then reached were the most sensible, and at the same time the most practical solution of a most difficult problem. We are glad to see that the Society of Medical Jurisprudence had present at its meeting Hon.

Willard Bartlett, who has studied the subject perhaps more than any other member of the legal profession.

MEDICAL MISTAKES.

In the House of Commons the President of the Local Government Board was recently asked if it were true, as reported, that last year, owing to mistakes of medical men, 462 persons had been removed to fever and small-pox hospitals, who were not suffering from either fever or small-pox. The President answered that 450 cases had been admitted on certificates which afterward were found to be incorrect. Of this number 97 died, but the death was in every case due to the disease with which the patient was at the time suffering, and not from any cause which was related to the removal.

It seems almost incredible that so many errors of diagnosis could be made by men who are as competent as English physicians are usually regarded to be. We have no desire to "blow our own trumpet," but we doubt if such a number of errors in diagnosis was ever made in a year on this side of the water.

DEATH FROM NITROUS OXIDE.

A Buffalo lady who had gone to a dentist to have some teeth extracted, is reported to have died in the chair while inhaling nitrous oxide gas. If this report is correct we must not attribute the death to the gas until we know more fully the history of the patient. Of all the anæsthetics that we have at our disposal, none is so safe as nitrous oxide; indeed, we have come to believe that it is absolutely devoid of danger. The enormous number of instances in which it has been safely administered certainly justifies this opinion.

EYE TROUBLES IN GENERAL PRACTICE.

A distinguished oculist of this city calls our attention to the ignorance of general practitioners on the subject of eye diseases. He says that a patient recently consulted him with glaucoma; the increased tension was readily recognized by her son, a layman, who accompanied her, although it had never been even suspected by her physician. In two cases of glaucoma which had come to him for advice, he found that the family physician had added fuel to the fire by instilling atropine into the eye.

It is a very gratifying fact that in some of our progressive medical colleges instruction in diseases of the eye is not only provided, but attendance upon it is made obligatory. It is not expected that all physicians will be able to test eyes or to treat all the diseases of this important organ, but it is hoped that the knowledge received will result in enabling them to detect such conditions as glaucoma and iritis, and thus save many eyes which now come to the oculist too late for him to prevent their loss.

THE ASSOCIATION OF ALUMNI OF ST. MARY'S HOSPITAL, BROOKLYN, N. Y.

This association held its first annual meeting at the rooms of the Medical Society of the County of Kings, March 23, 1893.

Papers were read by Dr. I. H. Platt, of Lakewood, N. J., "Report of a Peculiar Case of Rheumatic Fever;" Dr. John C. MacEvitt, of Brooklyn, on "Immediate Treatment of Non-Preventable Miscarriage," and by Dr. J. Lefferts Cornell, of Brooklyn, "Notes on Asepsis and Antisepsis." An address by the President, Dr. Walter J. Corcoran, of Brooklyn, concluded the exercises of the day. A banquet at the Hotel St. George followed.

The features of the organization are to afford the opportunity for occasional social communion and to discuss the more timely and pertinent questions of medical science.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge Street, on Tuesday evening, April 18, 1893, at 8 o'clock.

The President, Dr. John C. Shaw, in the chair.

There were about 100 members present.

The minutes of the previous meeting were read and approved.

The Council reported favorably upon the applications of the

following gentlemen and recommended that they be elected to membership:

Drs. A. R. Harris, James M. MacEvitt, Joseph E. Wells, Ashley A. Webber Floyd A. Thompson, Edward E. Cornwall and Louis Conrad.

The following having been favorably reported upon by Council, were declared elected to membership:

Drs. E. S. Bishop, A. R. Maine, R. W. Westbrook, A. Arbona, D. DeWaltoff, Wm. C. Gardner, E. H. Wilson, C. G. Koehler, W. B. Waterman, N. H. Hudson, G. F. Maddock, W. S. Simmons, J. T. Gallagher, Jas. S. Waterman, Herman C. Riggs, Vincent Gomez, Wm. J. Pennington, Henry A. Higley, E. C. Branch, H. M. Clapp.

The Secretary presented the following applications for membership:

Dr. W. S. Torrey, 81 Reid Ave., University Medical College, 1884; proposed by J. B. Bogart, M.D.; Dr. Z. T. Emery.

Dr. Albert C. Bunn (Rev.), Church Charity Foundation, Buffalo Medical College, 1866; proposed by Dr. G. H. Hopkins; Dr. Arnold W. Catlin.

FOR CORRESPONDING MEMBERSHIP.

Dr. Arthur E. Bunn, Tacoma, Washington; L.I.C.H.; proposed by Dr. Fred. D. Bailey; Dr. Chas. N. Cox.

Dr. Alex. J. C. McCatty, Montego Bay, Jamaica, W. I.; L.I.C.H., 1881; proposed by Dr. D. Myerle; Dr. Robert Swan, Sag Harbor, L. I.

SCIENTIFIC BUSINESS.

Dr. E. M. Mosher presented a "Posture Model," and demonstrated its uses. Discussion by Dr. W. M. Hutchinson.

Dr. T. M. French presented a paper on "Lymphoid Growths in the Vault of the Pharynx," which was discussed by Drs. Delavan, Prout, Wright, Van Cott, Briggs and J. B. Bogart.

NEW BUSINESS.

The Council recommended that the Committee on New Members may, at its option, increase its number to five.

On motion duly seconded and carried, this recommendation was adopted and the Chair so ordered.

There being no further business, on motion the meeting adjourned.

David Myerle, M.D.,
Secretary.

BROOKLYN GYNÆCOLOGICAL SOCIETY.

A regular meeting of the Brooklyn Gynæcological Society was held at the Society Rooms, 356 Bridge Street, on Friday evening, March 3, 1893, at 8:30 o'clock.

The President, Dr. Walter B. Chase, in the chair.

There were present Drs. Chase, Skene, Dickinson, Hyde, Jewett, L. G. Langstaff, Maddren, Matheson, McNaughton and L. G. Baldwin.

The minutes of the February meeting were read, and after correction approved.

PRESENTATION OF INSTRUMENTS.

Dr. Skene presented an improved endoscope for examining the female urethra, which consisted of the ordinary glass urethral endoscope formerly used by him, to which he had attached the Otis improvement in the way of a lens introduced in front of the electric lamp for the purpose of concentrating and diffusing the light and enabling a thorough examination of the mucous membrane of the urethra and the neck of the bladder. This he considered far superior to the old endoscope, where the reflector or head-mirror was used behind the light.

PRESENTATION OF SPECIMENS.

Dr. Wm. Maddren presented a specimen of lithopedion of three years' standing, removed from a patient by Dr. Isaac H. Barber in his service at the Kings County Hospital, by whose permission Dr. Maddren presented the specimen and read the history of the case.

On motion of Dr. Skene, Dr. Maddren was requested to convey to Dr. Barber, and accept for himself, the thanks of the Society for the specimen exhibited.

The specimen was discussed by Drs. Jewett, Skene and Chase.

Dr. Maddren stated that he would obtain the consent of Dr. Barber to make an internal examination of the lithopedion and report to the Society as to whether it contained calcareous deposits.

Dr. R. L. Dickinson presented a specimen of dermoid cyst, removed two days before from a young girl, which contained a superior maxillary bone and sixteen teeth. The tumor was firmly adherent to the bladder and intestines and required a great deal of force to remove it. All but a small portion of the sac and its putrid and broken down contents was removed. Patient rallied from operation and is doing well.

Discussed by Drs. Hyde, Skene, Jewett and Maddren.

There being no regular paper, the Society then proceeded to listen to the narration of cases.

NARRATION OF CASES.

Dr. J. W. Hyde related a case of amputation by the galvano-cautery of a greatly hypertrophied cervix with sub-involution, resulting in a reduction of the uterus to normal size, and cure of the sub-involution.

EXECUTIVE SESSION.

Some discussion was had in regard to the Society seal, which Dr. Dickinson had under advisement, and on motion, Dr. Dickinson was requested to prepare such an emblem for a seal as he considered appropriate, and submit it at the next meeting.

A communication was received from Dr. John Byrne regretting his inability to be present on account of ill health.

On motion, the Secretary was requested to acknowledge the receipt of the communication and convey to him in person the regrets of the Society.

There being no further business, on motion the meeting adjourned.

L. GRANT BALDWIN,
Secretary.

BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

Meeting of November 11, 1893.

THE PRESIDENT, DR. SHERWELL, in the chair.

SEBORRHEAL ECZEMA.

1. Dr. Holsten presented a case of seborrheal eczema of the lips. The disease manifested itself in the form of small yellowish dots apparently occupying the mouths of the muciparous glands. There was also well marked seborrheal eczema on the chest and face. The lips were improving under a lotion containing two per cent. of resorcin and two per cent. of sulphur.

Dr. Sherwell mentioned a case similar to this one which had been treated by a number of physicians but without success, until it was diagnosed by Unna at the International Medical Congress at Washington in 1886, and was cured by the use of a remedy at that time comparatively unknown—resorcin.

LICHEN PILARIS.

2. Dr. Winfield presented a case of lichen pilaris (Devergie's disease). The disease, which began on the patient soon after the

close of the war, covered the extensor surfaces of both upper and lower extremities, each follicle being filled with a small plug of altered epithelium which was firmly imbedded in the skin; by very firm pressure some of these plugs could be expressed. The rest of the body was not affected. Considerable itching, worse in the summer months, attended the disease. An ointment containing menthol and twenty per cent. of salicylic acid had given some relief; this was subsequently changed to menthol in olive oil, with better results.

PITYRIASIS MACULATA ET CIRCINATA.

3. Dr. Raynor presented a case of pityriasis maculata et circinata, located on the shoulders and thighs of a woman, which had existed on and off for nearly two years, the patient dating it from an attack of the grippe. There had been pains in the joints resembling rheumatic pains which lasted several months; then the eruption appeared, first as a spot on the legs, then on the neck and chest and had then gradually spread over the body. A month after its first appearance she became pregnant and during pregnancy some spots disappeared while new ones appeared. Shortly after the child was born she began to menstruate again. It was at this time that she was seen for the first time. Under a resorcin and salicylic acid ointment the eruption rapidly disappeared, but at the following menstrual period it reappeared. The question arose, did some uterine trouble or the menstruation influence in any way the eruption?

4. Dr. Morton also presented a case of pityriasis maculata et circinata. The eruption had existed from three to four months; was located in the axilla and on the arms and legs as ring-shaped lesions clearing in the centre, slightly scaly and intensely itchy. The patient suffered much from nausea and headache and was very anæmic. This anæmia Dr. Morton considered the most potent factor in maintaining the eruption.

SYPHILIS.

5. Dr. Winfield presented a boy with the following history: G. A., aged fourteen, Italian. Two years ago a small pustule appeared at the corner of his mouth which rapidly spread until it became the size of a five cent piece. One portion would heal while other parts would break down. The general appearance and nature of the cicatrices and ulceration so closely resembled lupus that it was difficult to arrive at a correct diagnosis without the history which was obtained later. About three months after the advent of the

labial lesion huskiness of the voice manifested itself and another small spot similar to that on the lip appeared on the left eyelid near the inner canthus. Laryngoscopic examination showed the soft palate partly ulcerated away; there was also thickening of the epiglottis and vocal cords and ulcerations of the post-nasal space.

History from the parents: When the boy was five months old he had a wet nurse who had an ulcer on her nipple. Thirteen months after, *i. e.*, one and a half years after birth, the boy began to emaciate, had a crust on the scalp with a few furuncular-like eruptions over various parts of his body.

On inspecting the mother there was observed a white, tissue-paper scar on her wrist which she said she had gotten from contact with the boy's head. Mixed treatment had effected considerable improvement in the boy's condition. Dr. Winfield regarded the case as one of syphilis acquired through the wet-nurse.

CORRESPONDENCE.

PHYSICIANS' AND SURGEONS' PHARMACEUTICAL COMPANY.

To the Editors of the Brooklyn Medical Journal :

Within the past few weeks the plans of The Physicians' and Surgeons' Pharmaceutical Company have been submitted to the medical profession of Brooklyn, with the confident belief that the project meets theoretically and practically a professional desideratum and that it will bear frank and open discussion from either standpoint. The writer wishes to present briefly the theoretical side. It is his earnest conviction that the proposed plan involves certain principles of vital importance to the progress of the profession.

It is hardly necessary to emphasize the fact that the modern advances of medicine as a science are in the line of rational therapeutics based on the physiological action of drugs. If medicine is ever to advance beyond the limits of an empirical art it must be on that line ; and who will venture to doubt that we have long since reached a point where the scientific physician is able to make a practical use of his knowledge of drug action ?

Empiricism is and always will be a valuable aid to the practice of medicine as an art ; but empiricism alone implies specific medication, and specific medication is the sworn enemy of rational therapeutics, as I hope to show.

Why is it that only in hospitals and institutions can we make

satisfactory scientific efforts to counteract disease by drugs? Is it not because there we have full control of both patient and the administration of drugs? In private practice our control over patients must always be a relative matter, varying with the severity of the illness and the confidence of the patient in the physician; but we trust that rational therapeutics in private practice need not be forever hampered, as now, by lack of control over our medicinal agents. The hospital pharmacy is under the physician's supervision—its supplies are his tools, to be used according to his skill and judgment. Does the average retail druggist acknowledge any right of supervision by the profession or any responsibility to its members except to the degree that he is under mercantile obligations to individuals?

While the profession is emerging from the scientific darkness of specific medication, the people at large (including pharmacists and lawyers) are still befogged with fundamental misconceptions about the medical profession, that originated back in the past ages when the only distinction between a physician and a charlatan was that the former—a brainy man—endeavored to individualize both the disease and its specific, while the latter, by dispensation of Providence, was able to generalize both.

The laity (pardon the expression), even those of good general education, still suppose that a physician's duty in regard to medicine is to shrewdly ascertain the name and pedigree of the disease and then sell to the sufferer the formula of his private and mysterious specific, contrived by much previous study and experience to "cure" the disease named. With awe proportionate to the repute of the physician and the size of his fee (which is regarded as the price of the prescription) the patient takes this epitome of wisdom to a druggist, has it compounded, and consumes the result more or less according to directions. If benefited thereby, he becomes a self-constituted advertiser of this formula as a nostrum, and the same prescription does duty with piebald consequences among the members of his family and acquaintance in cases more or less parallel in superficial characteristics. On the other hand, if he decide that he has received no benefit, unless restrained by some personal consideration for the original physician and the hope that he may have other formulæ for the same disease worth buying, it is a perfectly rational thing, from his point of view, to consult another physician and purchase his "favorite prescription," or, quite as properly, he buys one of the ready-made specifics prepared and lavishly lauded by the very druggist who compounded the first prescription.

"Counter-prescribing," the unlimited refilling of prescriptions, the legal decree "of ownership of prescription by patient," and the whole brood of "proprietary medicines," are the legitimate progeny of the old-established reign of specific medication. These evils can be attacked at the root only by educating the public to understand that the therapeutist of to-day and the future is not an inventor of mysterious specifics, but a man trained to the understanding and use of drugs as a means to combat disease, and entitled to the unhampered use of his weapons. In the effort to assume the control of their implements many physicians have been driven to keeping their own drugs in condensed forms, with some relief to conscience, perhaps, but with serious drawbacks in the loss of the refinements of pharmacy and in the impossibility of maintaining a fresh and complete stock. Such attempts do not afford a satisfactory solution of the difficulty. Every physician needs the services of a pharmacist who recognizes his authority over his own therapeutic directions. The writer believes that the most substantial progress in this matter can be made by establishing in our midst a pharmacy under the control of practicing physicians, which shall furnish drugs and incidental supplies on physicians' prescriptions or memoranda only. It would be out of place to present here the details of the plan, but one point should perhaps be considered as to its bearings on professional ethics. In order to establish the undertaking on a firm business basis and by financial interest keep the practical management in competent hands, the formation of a stock company seemed absolutely necessary. It is the proposition of the organizers that physicians shall hold the majority of the outstanding stock in small parcels as the only possible assurance that the company is under the moral control of physicians.

If physicians believe that such an institution can be made the best place to which to direct patients for supplies, practical success is certain. Practical success involves financial success; financial success means dividends on the stock. Is it unethical for a physician to accept dividends on stock held in such a company?

We think that as long as physicians hold a controlling portion of the stock this question cannot arise. The physician has invested money for the maintenance of a private pharmacy for the best interests of his patients and is entitled to a return on the money invested.

137 Berkeley Place. RALPH H. POMEROY.



LAWRENCE HEISTER.

This celebrated physician, surgeon, anatomist and botanist, is said to have been the first German surgeon of complete scientific education. Previous to his time it was the fashion to imitate the French in medicine as well as in many other things. He was born at Frankfort-on-the-Maine, in 1683; received his early and collegiate education in several schools and universities of Germany, and in 1706 went to Amsterdam, where he became the pupil of the celebrated teachers, Ruysch and Rae, attending diligently to their anatomical and chirurgical demonstrations; and omitting no opportunities of being present at any considerable operation by those brilliant operators or by the other eminent surgeons at that time in the old Dutch city.

The following year he served as a surgeon in the Dutch army in Brabant, which service he left to become a student under Boerhaarn and his distinguished colleagues, Albinas and Bidloo, at Leyden, in which universities Heister took his medical degree, and returning to the army was appointed physician general to the Dutch military hospital.

The experience he thus acquired raised him to a distinguished rank in the theory and practice of surgery, especially as he had a genius for mechanics, and was by that means enabled to bring about many great improvements in the instrumental branch of his art.

For two years he was professor of Anatomy and Surgery at Altorf, and rendered himself celebrated by his lectures and writings. He left that place to become physician, with the title of Aulic Counsellor, to the Duke of Brunswick and professor of Medicine and afterwards of Surgery and Botany in the University of Helmstedt.

Here he continued till his death which happened in 1758, at the age of 75.

Peter the Great invited him to Russia, but he was too comfortably situated in Germany, where the favor of several sovereigns already shone upon him at an early period, to accept the invitation. He published several books on anatomy and surgery, to several of which he supplied the illustrations drawn by himself. His Compendium of Anatomy, an 8vo book first printed in 1717, became classical, superseding all other text-books on the subject in the schools, and going through numerous editions, was translated into most modern languages.

His greatest work was his System of Surgery. He wrote it originally in Latin, which was the language of the medical literature of that period, but before publishing translated it into German; because as a biographer expresses it: "So great was the ignorance of the German surgeons, as well in the Latin language as in their own profession, that the work being chiefly intended for them, Heister judged it would be more useful to print the book in his native German."

It was afterwards printed in Latin for the benefit of foreigners, and in the year 1742 it was translated into English, and is esteemed as an excellent work. This volume, together with a vellum-bound edition of his Compendium of Anatomy, published at Nuremberg and Altorf in 1736, the writer is happy in the ownership of.

He was also a great botanist, published many works suggesting a classification of genera by the leaves of the plant, and was a professed and bitter enemy of Linnæus in his theories as to his sexual system in plants.

J. H. H.



TOURNEFORT.

This great leader of the French school of botany was born at Aix, in Provence, in June, 1656. His mother, Ademara Fagoue, was of a Parisian family, and, in the French sense, noble. He was well grounded in his studies for the medical profession, and particularly in anatomy and chemistry; but, having soon exhausted the botanical riches of the physic garden at Aix, and the circumjacent fields, he extended his researches to the neighboring Alps, and afterwards to the Pyrenees, where his hardy frame of body, and his observing, enterprising mind, easily introduced him to the knowledge of the vegetable stores of those romantic and fertile regions. Here he was even respected by the banditti then infesting those parts, who thought little of a man, whose only apparent riches were dried plants, and whose ostensible provision for his journey consisted of a little black bread, in which he concealed his money. Though he was once stripped naked by them, but they, however, so far took pity upon him as to return him his waistcoat, in the lining of which he had a sum of money concealed. His winters he generally spent in the university of Montpelier, where he first entered in 1679, but he is said to have taken his doctor's degree at Orange.

Assisted by a royal pension, in 1692, he became a member of the Royal Academy: and, in 1694, published his "Elements de Botanique," in three octavo volumes dedicated to Louis XIV. This, however, was only a prelude to his immortal work, "Institutiones Rei Herbariæ," in three quarto volumes, with 476 plates. In 1698, he was admitted a member of the Medical Faculty at Paris, and afterwards received the order of St. Michael. Under royal patronage he made a voyage to the Levant, accompanied by a German physician, and Claude Aubriet, one of the most exquisite botanical painters the world ever saw. On arriving at Paris, he availed himself of the connections and reputation he had acquired, by devoting himself to the practice of physic, and was made Professor of Medicine in the College Royal. His time, however, was so incessantly occupied by the preparation of his voyage to the Levant, that it led him often to encroach on the night after the superabundant labors of the day. His health became impaired; but his fate was precipitated by a carriage in the street, which, pressing upon his stomach, would have caused his instant death, had he not been rescued by a friend, who happened to be near. After this event he languished only a few months, and died December 28, 1708, in the fifty-third year of his age. Being never married, he left his collection of plants to the king, who bestowed a pension of 1,000 livres on his nephew, as an avowed return for this legacy, and a testimony of royal esteem. He was the greatest botanist of his time; and it was by his skill and care that the King of France's gardens, almost quite neglected and abandoned before, were afterwards holden in honor and thought worthy the attention of the enlightened world.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

A COLLECTIVE STUDY OF COCILLANA.—(*GUAREA - SP.*)

BOTANY AND PHARMACOGNOSY BY H. H. RUSBY, M.D.—CHEMISTRY AND PHARMACY BY VIRGIL COBLENTZ, A.M., PH.G., PH.D.—CLINICAL HISTORY AND THERAPEUTICS BY R. W. WILCOX, M.A., M.D., LL.D.

Mr. President and Gentlemen:

So extended already has become our list of therapeutic agents in this most opulent era, that the investigator of our still unexplored resources is almost called upon to present a defense, or at least to offer an apology, on presenting a fresh result of his discovery. Indeed, a very audible cry already proceeds from the less reflective, broad-minded or progressive branch of the profession against any further additions to what to them may perhaps be regarded as an "incubus of knowledge." Nor can I allow the present occasion to pass without saying a word to strengthen the

lines of that important department of Materia Medica to which the present paper forms a humble contribution.

The one fact that Materia Medica is a science is a sufficient evidence that no power can stay its steady, onward sweep toward completeness; toward a time when the relations of every known substance to physiological and therapeutical effects shall have become formulated. But while this consideration is sufficient to insure the loyalty of the scientific, the investigation of new remedies is not without its attractions for those who are,—I will not say more practical—but more *immediately* practical; that class who demand a prompt return in practical results for every effort which they consent to put forth.

Let such an one ask himself how many cases of disease which nature herself would not bring to a favorable termination, he can by the agency of medicines control. If learned and skillful, he will doubtless claim that the percentage is a large one; but even at the largest, how very many cases remain in which he finds himself helpless to the end? How many the diseases for which we have not a single direct, specific combatting agent? Or, how many medicines we possess which do their work so imperfectly or uncertainly as to leave much to be desired in the direction of finding a similar but superior agent? Do those who fail to appreciate the importance of the search for new remedies reflect that every remedy was once undiscovered, and that it is the same influences which have given us within comparatively recent times such remedies as quinine, ipecac, cocaine, cascara sagrada, belladonna, gelsemium, acetanilide, which now appeal for their sympathy and support, that they may succeed in contributing others of equal or of greater importance?

Again, let us question why it is that certain physicians excel in the handling of intractable cases. Because, one replies, they excel in judgment; but judgment is defined as the power by which we make choice, and we cannot choose until we have the objects of choice before us. Our good judgment is made effective only when it is based upon broad knowledge, and this knowledge can exist only as a result of discovery.

Looking, upon the other hand, at the field for research, we find in the vegetable kingdom alone, out of its two hundred thousand species, probably twenty-five organisms whose properties have not been investigated at all, for every one which has been so, and we can see no reason why there should not be at least as much of importance to be brought to light as has already been given us.

The mere announcement of a microbe killer, a pyoktanin or an antikamnia, copyrighted names for mere nonentities, I am not referring to as contributions to this department of knowledge. Such are, in some particulars, not above the therapeutical dicta of the middle ages. Breadth of view and liberality of treatment find no room for carelessness in requirement, no excuse for looseness in method. It is their very virtue that they tend toward accuracy of detail and rigor in criticism. And so it happens that in these days of fine specialization, few practical results are reached and verified by a single investigator. Association of forces has become almost a requisite. The mere preliminary announcement of therapeutic properties by no means implies a discovery. It merely indicates a promising field for research, and is construed as an invitation to associate workers to contribute their assistance. If, as in the present instance, the article be a vegetable product, the botanist must first investigate its source, that we may know its position in the plant series and consider its important relations to other members of the vegetable materia medica, and to furnish a means of establishing a base of supplies. The pharmacognosist must then establish the diagnostic characters of the product, as a means of identifying such supplies and estimating their quality. The chemist must determine its constituents, in order that the physiologist can locate so far as possible the properties that he may discover, and indicate to the pharmacist those which are desirable and those which are negative, or perhaps even undesirable. The pharmacist must then study for the preparations which shall most fully and satisfactorily represent the medicinal properties of the drug. Lastly the therapeutist must establish the value of the medicine and the methods of applying it in disease.

In the present instance it has not been possible for the investigation to proceed in this order. No chemist could be found with sufficient leisure and sufficient interest to fully analyze the drug, until it should have been pretty clearly established by clinical trial that it was worthy of this expenditure of time and effort. So for five years we have been limited to investigations which, though careful and accurate, have been unsystematic as to their association. Even now, the results are not so complete as we had hoped to have them for this presentation. The botanical determination of the plant has offered unusual difficulties and though the conclusion now reached is almost certainly correct, it will require verification by studies in foreign herbaria before it can be published as authoritative. The chemical investigation has suffered some delay from accident, and the analysis is not yet complete. The

clinical study is the only one which offers thoroughly satisfactory results, and this not in the direction of the properties of the several constituents, not all of these having yet been isolated. The following is the botanical history of the drug:

It belongs to the natural order *meliaceæ*, a small family of some forty genera and three hundred species, frequent in the warmer parts of Asia and America, a few in tropical Africa. Its only representative in the United States is the *melia azedarach*, or China-tree, sparingly escaped in the Southern States, where it is extensively cultivated as a handsome and fragrant small ornamental tree, the flowers somewhat resembling the lilac of our gardens. The members of this order are all trees or shrubs, a few very small, resembling herbs, but not really so.

From an economic point of view, the family is notable because it yields mahogany and various precious mahogany-like woods. It also yields the "red-cedar" of the tropics. This is not the juniperus or red-cedar of our hills, but the cedrela, a totally different plant. It yields the wood which enters into the manufacture of our lead pencils, and in many sections where it grows it is almost the only soft wood available for building and other purposes wherein we use pine.

From a medical standpoint the family is also very interesting because of the numerous medicinal plants which it contains, and especially because these are credited with properties showing a strong degree of uniformity, thus tending to verify and strengthen the conclusions reached. As a general characterization, the medicinal plants of this family may all be placed in the ipecac group. Concerning this very large group I published a study in the New York Medical Journal of February 11, 1893, wherein I reached the conclusion that among them all, those of the *meliaceæ* are the most typically representative of the properties of ipecac. The only one of this family generally known to scientific medicine is the *azedarach* before mentioned, which, though used as an anthelmintic, possesses distinct emetico-cathartic properties.

Others which are more or less extensively used by the inhabitants of the several countries where they respectively grow, are as follows: The *walsura piscidioides*, of India, used as a fish-poison like *cocculus Indicus*, and a powerful emetico-cathartic poison as applied to man. There are several species of trichilia, which act very similarly indeed to cocillana, and which, by the way, seem to me to be much more closely related botanically to the guareas than is indicated in the grouping given by Messrs. Bentham and Hooker in their great "genera plantarum." The *naregamia alata* of

India has received the name of "goanese ipecac" because of its very similar properties. It is most interesting that the properties of this plant, so far as can be judged from published descriptions, are almost identical with those of cocillana. Yet it was investigated entirely independently, even without knowledge of the properties or uses of cocillana. It is always a strong point in the case of any group of plants that, investigated independently and in regions remote, they should acquire a repute for the same properties. Lastly, we note that guarea, to which genus belongs cocillana, possesses several species which are credited with more or less similar properties. Two different species, the one of Brazil, the other of Guiana, have received from different authors the name *G. purgans*. This name indicates that these tend rather toward purging than toward nausea, while of cocillana the opposite is true.

Notwithstanding early misconceptions of the botanical nature of this plant, its present reference to this family and genus is correct beyond doubt or question. As to which species of the genus it is, we are unfortunately not so well assured. There are some thirty species in the genus, all South American and West Indian, except perhaps one which is credited to Africa. To indicate the relative diagnostic values of the different structural characters as understood by Casimir De Candolle, who has monographed the South American species in the Flora of Brazil, I append the following partial analytical key, which, in its main features, represents the ideas of that distinguished botanist:

{ Flowers tetramerous, 1.
{ Flowers pentamerous, 2.

1 { Ovary hirsute, 3.
{ Ovary glabrous, 4.

3 { Panicle peduncled, 5.
{ Panicle sessile, 6.

5 { Panicle much branched, 7.
{ Panicle nearly simple, 8.

7 { Petals densely silky outside, 9.
{ Petals nearly smooth outside, 10.

9 { Leaves glabrous both sides, 11.
{ Leaves pubescent underneath, 12.

11 { Bud oblong, 13.
{ Bud ovate, 14.

But Sections 13 and 14 are farther than we can go in the classification of our plant, because its bud is neither oblong nor ovate, but intermediate between the two forms. As regards this classification, I desire to remark that it is very doubtful whether the characteristics which are here treated as fundamental are really possessed of the greater diagnostic value. Those of you who are experienced in systematic botany or zoölogy will appreciate that in different families or genera characters of the same class do not agree as to their possession of a superficial or a fundamental value in classification; and that it is necessary to gain an extensive knowledge of the group before we can decide what amount of reliance to place upon any special class of characters. Regarding guarea we have not yet accumulated this amount of knowledge, and for my own part I regard all present attempts at classification as being tentative merely.

So soon as the reference of the plant to this genus became established, its striking similarity to *G. trichilioides* became apparent, and as there were no external differences sufficient to separate it from that species, and as the minute characters of that species had never been determined, or at least published, it was provisionally regarded as belonging there. Since that time, however, I have carefully dissected both species and noted ample structural differences, in my opinion, to separate the two. A synopsis of these differences is here presented.

G. trichioilides.	*Species Yielding Cocillana.*
Petiole 3 to 5 cm. long.	Petiole 5 to 8 cm. long.
Panicle nearly as long as the leaf, very loosely and distantly flowered.	Panicle averaging not more than one-third the length of the leaf, in fact but little longer than the petiole, rather densely flowered.
Branches of the panicle shortly but distinctly peduncled.	Branches of the panicle sessile.
Flowers on pedicles of one-third their length.	Flowers not pedicelled.
Calyx 3 mm. broad, only one-half as long, the border standing very distant from the narrow base of the corolla tube.	Calyx 2 mm. broad and about equally long, rather closely encircling the broad base of the corolla tube.
Lobes of the calyx semi-circular, or even broader than long, regularly rounded in outline, sometimes 2-dentate.	Lobes of the calyx broadly triangular-ovate, acute.
Corolla-bud, oblong, at least the lower two-thirds narrow, not red, more sericeous than in the other.	Corolla-bud ovate or ovate-oblong, the lower portion stout, dark red, less sericeous.

G. trichilioides.	*Species Yielding Cocillana.*
Petals 7½ mm. long, the inner surface showing no prominent nerves.	Petals 4½ mm. long, the inner surface showing three strong, dark nerves.
Stamen tube 6½ mm. long, one-third as broad, cylindrical, adnate to the corolla, at least in the bud.	Stamen tube 4 mm. long, one-half as broad, campanulate, always entirely free from corolla.
Anthers longer, and proportionately broader, than in the other.	
Gynobase longer than ovary.	Gynobase and ovary of equal length.
Gynobase and pistil together 8 mm. long.	Gynobase and pistil 4½ mm. long.
Pistil proper 4½ mm. long.	Pistil proper 2½ mm. long.
Style twice as long as the ovary.	Style only two-thirds the length of the ovary.
Fruit globoid, with an indistinct narrowed base.	Fruit pear-shaped, with a conspicuous narrowed base.

It may, therefore be taken as established that the plant is not of the species *G. trichilioides*. There are, however, several other species between which and it a distinction is not clearly proven by published descriptions, and of which there are no specimens in this country. Although it is reasonably certain that it is distinct from all those, this question cannot be absolutely pronounced upon until I shall have had an opportunity of making comparisons abroad during the coming summer.

A full botanical description of the plant will read as follows: A tree of some 12 m. in height, broadly branched from near the base, reaching an extreme trunk diameter of nearly 1 m., the ultimate branches erect; wood rather soft, covered with a thick ash-colored bark, which becomes rough only in age; leaves somewhat erect-clustered at the ends of the branches, imparipinnate, 5 to 7 dm. long by 3 to 4 dm. broad, broadly oblong in outline, the petiole 5 to 8 cm. long; leaflets opposite, from seven (rarely so few as five) to ten pairs, short petioled, oblong, somewhat obtuse at each end, entire, 15 to 20 cm. long by 5 to 6 cm. wide, smooth on both sides when mature, principal veins about eleven to fourteen on each side; panicles axillary, once compound, or one or two of the lower branches also compound, 25 to 30 cm. long by 5 to 10 cm. wide at the base, peduncled, the peduncles forming about $\frac{1}{6}$ of their length, rather densely flowered for the genus, the branches and flowers sessile; flowers perfectly 4-merous; calyx coriaceous, 2 mm. high and about as broad, rubescent, hoary-tomentose, the lobes broadly triangular ovate, acute, unequal; corolla in the bud oblong ovate, slightly angled, rubescent, sericeous upon the out-

side, apparently never opening except at the apex, near which the petals are apparently circumscissile, the upper portions separating at the line of the summit of the stamen tube ; petals 4½ cm. long, thick internally, dark red and smooth, showing three dark veins ; stamen tube 4 mm. long, one-half as broad, campanulate, always free from the corolla, thick, strongly, many striate, minutely hoary, slightly 8-crenate, the anthers sessile, alternating with the lobes, oblong, ⅔ mm. long ; gynobase blackish, nearly as long and broad as the white silky ovary, the apex broader than the ovary ; gynobase and pistil 4½ mm. long, the pistil proper 2½ mm. long, densely hirsute, ovary 4-celled, the cells apparently 2-ovuled ; style two-thirds the length of the ovary ; stigma peltate, about as broad as the ovary, above indistinctly 4-grooved ; fruit fig-shaped, the narrowed base conspicuous, about 3 mm. long by ½ broader, the main body of the fruit globose, the apex flattened slightly, about 15 mm. broad, about 2 cm. in diameter, apparently indehiscent, not castate nor sulcate, of a rich brown color, somewhat roughened and marked by numerous irregular light-colored spots, texture ligneous.

PHARMACOGNOSY.

In accordance with the advice of the natives, only the thicker bark, from the trunks and larger branches, has been collected, and only this is here described. That the natives are correct in their opinion is not certain, but very important clinical results obtained in treatment have resulted from this bark, so that its value is well established. Prof. Joseph Schrenk, now deceased, made the first pharmacognostical examination of the bark, and to his general description there is little to add. His figures, however, failed to exhibit some important characteristics and I have had new ones drawn for this study.

Bark of low specific gravity, soft and loose in texture ; occurring in irregular fragments, varying from a dm. or less, to 5 dm. in length, and from 2 to 10 or 12 cm. in breadth ; 5 to 15 mm. in thickness, the thickness, at least in the older bark, about equally divided between the corky and the fibrous layers, or the cork a little thicker ; outer surface varying from an ashy-gray to a somewhat blackish-gray, and with a tawny or light orange-brown tinge, marked by large silvery-white lichen patches, in which occasionally small bright yellow spots may be seen ; deeply, coarsely and irregularly longitudinally fissured and with a few distant and very fine transverse fissures, apparently produced in drying ; the corky layer is internally of a deep reddish rust-brown, the trans-

verse section marked by scattered small whitish spots, and its fracture is granular; inner surface dingy yellow, with a light, but distinct, rusty shade, coarsely striate and roughish, with detached broad bands of bast fibres; fibrous layer yellowish white, obscurely tangentially yellow striate, its fracture long and coarsely splintery; odor slight but peculiar, a little nauseous, and on strong and prolonged exposure, sternutatory; taste slightly bitter and nauseating. For a description of the microscopical appearances, I cannot do better than to quote from Prof Schrenk, Druggists' Bulletin, 1888, p. 222.

"On cross and longitudinal sections the periderm is found to consist of one or several layers of primary, and frequently even of secondary bark separated from the deeper, living tissues by broad bands of cork. Large groups of sclerenchyma cells very much thickened, porous walls are seen in the periderm and the other parts; their number diminishes toward the interior, and in the inner half of the bast portion they are met with only very sparingly.

"The bast-cells are arranged in strictly tangentially elongated groups (as seen on the cross-section), but there are no radial rows, therefore the medullary rays are not so readily distinguished with the unaided eye as in some other barks. They invariably make considerable curves where they enter the zones of cribrose and parenchyma tissue, which alternate with those of the bast-fibres, and as they contain a red-colored substance they can easily be traced under a low power as undulating red lines. On tangential sections they appear very distinct as narrow ellipses made up of from one to three horizontal, and up to twenty vertical rows of cells. Where these rays pass through parenchyma tissue they are frequently bounded by vertically elongated, rather wide cells, distinguished by the fibrous thickening of their cellulose walls. They form a prosenchyma-like tissue, for in each vertical row of (from five to ten) cells the two terminal ones are pointed.

"The bast-cells are slender and straight, at an average of 75 mm. in length. Each liber bundle is accompanied by rows of cells with very much thickened, lignified walls, each containing a large calcium-oxalate crystal (of the monoclinic system) entirely filling the interior of the cell, so that when the crystal is removed by the application of hydrochloric acid, an exact mold of it is left. So closely are these rows of 'crystal-sacs'* applied to the bast-fibres, that the latter can be brought to view on longitudinal sections only with difficulty. Calcium-oxalate crystals of the same form are also

"*Cf. the crystals in the liber of Frangula, Ulmus, Quillaia, etc."

seen in other cells, especially in the proximity of the stone cells. Small, rounded, simple starch-grains are rather abundant in the parenchyma, and in the cells of the medullary rays can be noticed the red-colored masses mentioned above, which are insoluble in alcohol.

"Many of the elongated parenchyma cells of the liber are almost entirely filled with a yellowish-white, amorphous, sometimes slightly granular, substance. It resists alcohol as well as the mineral acids and the alkalies. Even chromic acid, which quickly destroys the walls of the cells containing these masses, so that they float about in the fluid, changes them only slightly, causing them to assume a granular appearance. Osmic acid colors them dark-brown, alcanna tincture red, and Schultze's solution (chloro-iodide of zinc) bright orange. Turpentine and chloroform were found to be ready solvents of this substance, so that it might be considered a kind of latex, related, perhaps, with the resinous secretions furnishing gutta-percha and caoutchouc and the isolated secretory cells may be placed in the class of latex-cells, until more thorough investigations give us definite information about their nature.

"I merely throw out the suggestion that some active principle might be contained in this latex, in analogy with opium, euphorbium, jalap, etc.

"A small quantity of the bark was treated with chloroform, which, after evaporation, left behind a yellow, viscous, resinous substance that has the peculiar, but much intensified, odor and taste of the bark. Chemical and pharmacological investigations will be necessary to reveal its nature and determine its medicinal value."

COCILLANA—ITS CLINICAL HISTORY AND THERAPEUTICS.

BY REYNOLD WEBB WILCOX, M.A., M.D., LL.D.,

Professor of Clinical Medicine at the New York Post-Graduate Medical School and Hospital; Assistant Visiting Physician to Bellevue Hospital.

In May of 1889, I commenced a clinical study of this, at that time, new drug. In December of that year I read a paper upon the results of my clinical work before the Academy of Medicine, which was published in the New York Medical Journal of the same month. During the time that I was making my observations,

Stewart was pursuing the same line of study. Shortly afterwards Mettler published his paper. The literature, then, is chiefly to be found in the work of Rusby, Stewart, my own paper, and the later papers of Mettler, Eckfeldt and Shoemaker.

The preparations which I have employed have been a concentrated tincture of the bark, the dose varying from half fluiddrachm to two fluiddrachms, administered every two to eight hours; a fluid extract, which I have used in doses of from five to twenty-five minims, every three to six hours, and which I think is preferable, in many cases, to the concentrated tincture on account of the absence of alcohol. Within the past three weeks I have experimented with a syrup which contains all the active principles of the bark except the resinoids and possibly a glucoside, if present, which are removed by precipitation by water from an alcoholic solution. The dose of the latter has been one to two fluiddrachms every four to six hours.

The symptoms which are noted when the drug has been given in the crude state, that is, in the form of a powdered bark, are the production of nausea and a desire to vomit, with a metallic taste in the mouth, within about a half hour after its administration and lasting an hour, the nausea being accompanied by an early discharge of mucus and afterwards by dryness of the throat. These symptoms, so far as the throat is concerned, are not marked after the administration of either the fluid extract or the concentrated tincture. I think that the syrup produces this discharge of mucus, but not to such an extent as the crude drug. Presumably, these symptoms are of the same nature as those produced by ipecacuanha, which is locally irritating in that it increases secretion from parotid glands, mucous membrane of the nose, mouth and pharynx. The drug given in any form will sometimes produce a slight headache, rarely slight dizziness, although these symptoms do not appear with any great frequency. There is, with large doses, a desire to defecate, which, however, may be restrained. This symptom is by no means so well marked with the syrup as with the other preparations. From this fact, I infer that the resinoids extracted may contain the purgative properties of the drug. There is frequently a slight increase of perspiration; there is a considerable stimulation of vessels and glands, more especially the glands of mucous membrane of the bronchial tubes and of the digestive system. This stimulation, which shows itself by increased secretion, lasts for several hours and is quite likely to be due to the elimination of the drug by way of these tracts. The leading indication for its use is a hyperæmia of mucous membrane unac-

companied by secretion. The cases in which I have used this remedy can be provisionally divided into three classes: Those of acute bronchitis, those of subacute and chronic dry bronchitis, and those of chronic disease of pulmonary tissue.

In each one of these three classes of cases, I believe we find a very excellent reason for the use of cocillana in preference to many so-called expectorants. In the first place, I regard it as a valuable substitute for ipecacuanha, and not only a substitute, but a drug that is, in the vast majority of cases, to be preferred to ipecacuanha. So far as I have been able to discover from an extended series of laboratory experiments, with the exception of a very few remedies, the expectorant effect of these remedies is simply an early stage of the emetic effect. In the case of ipecacuanha, the distance between a purely expectorant result and an absolutely emetic result, is by no means a long one, and the use of ipecacuanha to obtain one or the other effect, is simply a question of dose, and that, too, a dose not defined by hard and fast lines, but depending largely upon the peculiarities and idiosyncrasy of the patient. Now, what is true of ipecacuanha is true of a very large number of drugs of that class. On the other hand, with cocillana, the expectorant effect seems to be entirely separate from its purely emetic effect; for, with commencing expectoration, you do not obtain that relaxation of peripheral blood-vessels, that slight perspiration which so frequently accompanies an effective expectorant dose of ipecacuanha. On the other hand, for all that vomiting can be produced by an excessive dose of cocillana, it is only by its injudicious exhibition that we ever obtain this phenomenon, although I am free to say that vomiting, if obtained by cocillana, is extremely persistent, is accompanied by an abominable taste in the mouth, and is thoroughly prostrating; but the difference in doses is so great that these symptoms could only be obtained by the greatest carelessness. With the syrup which I have been using of late, a decided expectorant effect can be obtained with one or two drachms; emesis was only produced when two ounces had been taken at a single dose.

As compared with the action of apomorphine, I believe cocillana presents certain advantages. The experiments that have been performed by many observers, including myself, show that expectoration in rabbits and cats follows uniformly the administration of a dose of apomorphine; the trachea, when opened half hour after a hypodermatic injection of this remedy, is found to be filled with frothy mucus; the mucous membrane is seen to be pale, the blood-vessels hardly visible. On the other hand, with cocillana,

the expectoration although not quite so profuse, is a trifle more viscid, and it seems fair to conclude that while apomorphine depletes the blood-vessels and removes serum from submucous tissues, cocillana stimulates the muciparous glands to action. There is a difference in time also, apomorphine acting within a half to one hour, cocillana being somewhat more slow, three to six hours being usually required. The expectorant effect of apomorphine passes off within two or three hours at the outside, thus necessitating frequent doses; while expectoration once established by cocillana, persists usually for from four to six hours, the longer intervals of administration for cocillana being a decided advantage, and so far as the expectoration goes, the teasing cough, the sense of stuffiness are, I believe, better relieved by cocillana, with its somewhat thicker expectoration, than by apomorphine, with its purely watery secretion. So, in cases of acute bronchitis that are seen before forty-eight hours of the disease have elapsed, apomorphine will relieve more quickly; but in cases seen for the first time at a late period, I would prefer cocillana. I have not found that the rhythm of the respiratory act was affected, only so far as freer expectoration lowers the respiratory rate. That the expectorant effect of cocillana is not the first stage of nausea is shown by the fact that an increase of appetite is usually observed even under full physiological doses, and, contrary to what we find with ipecacuanha, there is no change in the fulness of the pulse. In cases of acute bronchitis also, the laxative effect of cocillana is valuable.

In cases of chronic bronchitis, especially of the dry variety, I believe we find a larger field for the use of cocillana. Its expectorant effect is certainly surer than that of either apomorphine or ipecacuanha in liquefying bronchial mucus. It is better for continued administration because it increases the appetite, not because the drug itself acts like a simple bitter or its menstrum (alcohol) irritates the stomach, for the fluid extract and syrup are equally reliable in that direction, but because the drug is, as I have said before, a laxative, probably from stimulation of the intestinal muciparous glands. The increased number of movements of the bowels are not characterized by pain or tormina, but are simply movements increased in amount and of greater fluidity. The laxative effect of the syrup is by no means marked as compared with that of the concentrated tincture of the fluid extract. The expectoration is not so much influenced by warm diluent drinks as is that of apomorphine, ipecacuanha, or carbonate of ammonia, although the drug itself may produce a slight perspiration. In chronic bronchitis with viscid expectoration, cocillana will render

the sputum liquid somewhat more surely than ipecacuanha, and it has the further advantage of not causing nausea. After continued use it seems to check the formation of mucus, either from sedation of the muciparous glands through over-stimulation, or from more rapid expectoration, opportunity for decomposition is prevented and its irritating properties thus are not acquired. However, in cases of senile bronchitis, particularly in cases of calcified costal cartilages, it may so markedly add to the bronchorrhœa that it becomes absolutely dangerous, and particularly because it is not a stimulant to the respiratory centre like belladonna and strychnine. It is, however, just to say that a recent observer believes it to be a respiratory stimulant as well, although I have never been able to satisfy myself that such is the case. In these cases, then, it is useful only so far as it liquefies secretion. Although this is a limitation in the field of its usefulness, it is not one that we need deeply regret, because in a case like this, and especially where we have a dilated right heart, we get such brilliant results from a combination of strychnia and carbonate of ammonia.

In cases of chronic disease of pulmonary tissue, cocillana has almost its own use in liquefying secretion and relieving the acute exacerbations of the associated chronic bronchitis. Since the use of this remedy is likely to be persisted in for a number of months, its effect upon the appetite and upon the bowels should cause it to be preferred to any of the ordinarily used drugs. The cough and expectoration diminish, probably for the reasons given above, and, as a consequence of removal of the opportunity for auto-infection, night-sweats are likely to diminish.

In order to get the best effect from cocillana, a careful diagnosis is necessary, and, indeed, a diagnosis based to a considerable extent upon physical signs; for when the cough is due to pleuritic exudation, or is laryngeal or pharyngeal, cocillana in common with all other expectorants, will fail.

In conclusion, I believe cocillana to be superior to apomorphine, except in cases of acute bronchitis when taken within the first forty-eight hours. It is certainly preferable to ipecacuanha, in that it does not so readily cause nausea and a metallic taste in the mouth, and that it improves the appetite and assists in the regular movement of the bowels. It must yield to carbonate of ammonia in chronic senile bronchitis, although the heart-beat and the pulse become stronger under its use, and it cannot stimulate the respiratory centre as strychnine does. It is immeasurably safer in any stage of acute bronchitis than pilocarpine, because it does not depress the heart action. I believe it can fully replace

ipecacuanha, which is now becoming expensive from exhaustion of the supply, in every sphere of action, and, in a very large number of cases, it can be substituted with advantage for apomorphine, carbonate of ammonia, strychnine, and other drugs classed with more or less reason as expectorants. In the four years which have elapsed since my studies of this remedy commenced, I have formed a more and more favorable opinion of the value of this drug in the class of cases which are specified above. I am firmly of the opinion, and this is based upon the study of a large number of cases of diseases of the respiratory organs that come under my observation in public service, that cocillana is a remedy that will be received with lasting favor by the medical profession.

DISCUSSION.

Dr. R. W. Wilcox.—I wish to say first, Mr. Chairman, that I appreciate very highly the honor of addressing this Society, for as a student of medical literature I am familiar with the work done in this City of Churches. I appreciate your work for the Society in the Brooklyn Medical Journal, and beyond the interest that a practical man has in it, I feel that the work that is being done in that Journal in the way of acquainting the younger members of the profession with the Fathers, is one that should be emulated by all our medical writers.

Dr. Eccles.—I am sorry Prof. Coblentz is not here. I was anxious to hear his report on the chemistry of the subject, and as he has not come I thought Dr. Rusby would give us that. I understand Prof. Coblentz has discovered two resins, the red and the white.

Dr. Rusby.—The red resin is not regarded as a discovery. It is a resinous substance which is precipitated as a fluid extract on the addition of water. An alkali does not dissolve it. In addition to this he has found crystals which possess to a certain extent the characteristic taste and odor; he has also an oleo-resin which more markedly possesses the characteristics of the drug. These he had not purified when I saw him. Prof. Coblentz was ill two or three days last week and I was also sick and only saw him for a few moments to-day, that is the reason I am not able to answer the question more fully. He finds also evidences of a glucoside.

Dr. Eccles.—On February 25th I was first informed that Dr. Rusby was going to present this paper, and immediately proceeded to examine chemically some extract of cocillana. Only a small amount was in my possession. Part of it was used as an expec-

torant, and in the few cases tried it seemed to work like a charm, relieving ordinary cough and acute bronchial troubles. In the matter of its chemistry duty compelled me to desist from work before much had been done. I, however, succeeded in discovering a few points of interest. The white resin I failed to isolate, but saw it was there by the action of the reagents. The red resin in combination with the white resin, in fact the entire resinous mass, exclusive of a substance to be spoken of hereafter, is in the bottom of this beaker. The peculiar odor of the cocillana can be recognized therein. An alkaloid was found having some distinctive properties. It is of a light straw-yellow color, so far as procured in a nearly pure state. It appears, very likely, in connection with some organic acid. The isolation of the acid would be difficult, and I had no time to undertake it. A hydrochloride of the alkaloid was produced and found like its base to be somewhat resinous in appearance, but could not be crystalized. Several attempts were made, but each failed. It is insoluble as an alkaloid in water. The hydrochloride is soluble in water, and quite so in acid solutions. These solutions are precipitated in dense flocculent masses by Mayer's reagent. It is also precipitated by solutions of tannic acid and of sodium molybdate. The color reaction with strong hydrochloric acid is negative; neither is there any color with strong nitric acid. Sulphuric acid gives a brown co'or, shading to red. With sulphuric acid and sugar there was no change from that of sulphuric acid alone, neither did bichromate of potash alter it. The only color reaction was that of the straight sulphuric acid. I intend to see whether it resembles *emeline* by trying it with chloride of lime. As the drug is somewhat related to ipecac it might give a similar color reaction. The name I suggest to-night for the new alkaloid is "rusbyine." It is customary to give the first alkaloid found in a plant the name of either its species or genus. I believe that this species has been named "rusbyi" by Dr. Britton. I think it will therefore be proper to call the alkaloid "rusbyine." What other constituents the plant may contain I cannot say, not being able to go any further with the work. This is the first mention of the existence of this alkaloid that has been made, and the Brooklyn Medical Journal will give the first account of its discovery. It had the first report of the alkaloid calycanthine, which I found a few years ago. On the edge of this evaporating basin you will see a small amount of this latest alkaloid.

Dr. Raymond.—Mr. President, is this drug obtainable in the drug stores ordinarily?

Dr. Eccles.—Quite a number of them keep the fluid extract.

Dr. KENT.—I would like to ask Dr. Wilcox if any experiments have been made with the hypodermic injection—whether systemic effects would be produced by throwing it into the circulation, other than by the stomach.

Dr. WILCOX.—No attempt has been made in that direction for this reason, that the different principles had not, at the time my earlier experiments were made, been isolated, and we were waiting for the chemist to catch up with the therapeutist. Now it is in order for the therapeutist to make a little more definite statement in regard to it. We have gone a step further of late and separated the expectorant properties from the emetic and purgative, and now very shortly we will be able to say how far the new alkaloid represents the expectorant and emetic properties of the drug.

THE PRESIDENT.—Is there any gentleman present who has used the drug?

Dr. MACUMBER.—I am reluctant to make any remarks, but I have used the drug somewhat. I used Parke, Davis & Co.'s fluid extract, in doses of fifteen to twenty drops every four hours, and I found it a very useful expectorant in sub-acute and chronic bronchial troubles. It establishes secretion in a short time and the secretion is usually very healthy in appearance.

Dr. RUSBY.—I have nothing further to say, Mr. President, except to mention an idea in regard to the physiological effects of the drug so far as the production of mucus is concerned. The inhalation of the dust produces sneezing and irritation and very much the same symptoms as the inhalation of the dust of ipecac. This suggested to me the thought that possibly the local application of some fluid preparation of the drug in the form of a spray to the throat would be found useful by the laryngologists.

Dr. KENT.—I would like to inquire whether after large doses of this drug the stools exhibit any such characteristics as we see after ipecac; what is the effect in that respect?

Dr. WILCOX.—The only differences I have noticed in the stools are those mentioned in the paper, namely, that they are larger in amount and more fluid than ordinary stools. I have noticed no change in the color, or anything unusual in the odor than arises from increased peristalsis. The drug stimulates the muciparous glands of the intestines to action, causing the stools to be larger and more fluid. Beyond that I have nothing which I could state definitely.

When used as an expectorant the following is the form of prescription:

℞ Extracti cocillanæ fluidi,
Extracti lippiæ Mexicanæ fl. p. æ ʒ ss.
S. Thirty drops in wineglass of water every 4—6 hours.

EXAMINATION OF COCILLANA.

BY VIRGIL COBLENTZ, A.M., PH.G., PH.D.

Five hundred grams dry, finely pulverized drug was exhausted with hot benzol until it yielded no further residue. From this extraction, most of the benzol was recovered by distillation, the syrupy product transferred to an Erlenmeyer flask and evaporated at a gentle heat till it ceased to lose weight and benzol was removed.

BENZOL EXTRACT 24.95 GMS.

This extract was of greenish gray color; while still in flask it was connected with well-cooled condenser, placed on boiling water bath, some water (acidulated with tartaric acid) added and then steam was blown through the flask as long as the distillate contained any oily globules. At conclusion of distillation the condenser was found to be incrusted with crystalline masses; these were washed out and recovered from it, as well as the distillate; further portions were recovered on extraction with ether.

This white crystalline body was recrystallized from alcohol several times, yielding hexagonal plates (0.65 gms.). This substance is very soluble in ether—chloroform, alcohol, ligroin, acetic ether, glacial acetic acid, insoluble in alkalies—acids gave no color reactions. Heated with water it melts to oily globules which congeal on cooling; has peculiar aromatic taste. After drying over phosphoric oxide it melted at 80° C. sharp. When heated above this temperature it sublimes, yielding white flaky crystals. From its deportment this body belongs to the so-called "camphor-like" bodies, or more properly, solid hydrocarbons, such being peculiar to the phlox species. A further examination of this body will be made in the future.

The aqueous acid distillate after removal of the hydrocarbon, was tested for alkaloids with Mayer's and other reagents, indicating presence of traces. The precipitate produced by Mayer's reagent was collected and reserved for further use.

The residue in the retort after distillation, freed from water, weighed 24.3 gms.; was a pale greenish, brittle, resinous mass. This was dissolved in small quantity of chloroform and then poured into large excess of alcohol with constant stirring; a white resinous powder precipitated, leaving the alcohol of pale greenish color; the resin was filtered off and washed with alcohol to remove

adhering oil. For further purification the resin was again dissolved in small amount of chloroform and precipitated in alcohol. The alcoholic solutions on evaporation yielded 12.5 gms. of a greenish yellow fixed oil. This fixed oil had a pungent, acrid taste and earthy-like odor; soluble in ether, chloroform, alcohol, turpentine, etc.; left a permanent greasy stain on paper; saponified readily with weak soda. With nitrous acid yielded elaidin. It is therefore a non-drying fixed oil.

The resin obtained as above (11.8 gms.) was a white impalpable powder, melting at 122° C. to clear yellow liquid. This resin on melting and cooling leaves a transparent brittle mass of pale straw color, tasteless, inodorous, soluble in chloroform, ether or turpentine; insoluble in alcohol, dilute alcohol, boiling aqueous caustic potash, soluble in large excess of boiling alcoholic potash, reprecipitated again on addition of an acid. No action in cold by any of the acids, prolonged boiling with nitric acid remained unaffected. Fusing with caustic potash produced no action. From its reactions it might be classed as an indifferent resin.

80 PER CENT. ALCOHOLIC EXTRACT.

Complete exhaustion yielded 9.4 gms. dry extract. This on treatment with absolute alcohol left behind 2.7 gms. insoluble residue consisting of caoutchouc and gummy matter.

The alcoholic extract was concentrated to small bulk and poured into excess of ether, agitating, then allowed to deposit insoluble portion; the ether having become clear, was decanted and the precipitated mass well washed with ether.

INSOLUBLE IN ETHER.

The brown colored extract was dissolved in water and precipitated with subacetate of lead. The precipitate was suspended in water, and lead removed with H_2S, filtered and heated; this solution gave greenish black coloration with ferric chloride, preciptated with solution of gelatin and reduced ammoniacal silver nitrate, indicating the presence of a tannin-like principle; from the reactions obtained there can be but very small amount present, hence no estimation was made. This same solution also readily reduced Fehling's solution and the Bismuth test solution on warming. The filtrate from lead precipitate was freed from excess of lead, heated to remove H_2S, this showed the presence of glucose by Fehling's and Bismuth test.

The above solutions were tested for alkaloids with negative results.

SOLUBLE IN ETHER.

An alcoholic solution of this extract is poured into water acidulated with HCl., yielding a brownish resinous precipitate. This is filtered off and well washed. This resin (0.8 gms.) is readily soluble in ether, chloroform, benzol, alcohol, dilute NH_3 precipitated by acids, of intense bitter acrid taste reminding one of the taste of the crude drug.

The acid filtrate, which is of deep red color with greenish fluorescence, was shaken with ether, chloroform and benzol without yielding any appreciable residue; it was then made alkaline with ammonia (alkali intensifies the color) and again shaken with several portions of ether yielding on evaporation, an impure residue, which on resolution in acidulated water an reprecipitation, yielded 0.012 gms. residue, which possessed many characteristics of an alkaloid. With the amount obtained from the benzol extract gave 0.014 gms. The usual alkaloidal reagents as Mayer's, Lugol's, potassio-cadmic iodide, auric and platinic chloride, tannic acid, picric acid, all gave distinct reactions. With picric acid, microscopic crystals were obtained, but all other salts refused to crystallize. The quantity being too small precluded a test for nitrogen, so at present, we will call it an alkaloid.

It was presumed a larger yield might be obtained from plant direct, by exhaustion with alcohol acidulated with tartaric acid, evaporating, treating with water, removing color and extractive with ether, then making alkaline and exhausting with ether, the alkaloidal residue purified gave me 0.015 gms. amorphous alkaloid, from 500 gms. drug.

I hope in future by working with larger amounts of the drug, to obtain sufficient quantity of this principle to identify it definitely and give something about its composition and properties.

The highly colored alkaline liquid remaining after the extraction of the alkaloid, was concentrated on water bath. During the evaporation deep crimson colored drops condensed on sides of beaker; the liquid was transferred to small flask and distilled. The first few c. c. were of crimson color, unaffected by acids and intensified by alkalies; could not abstract it by means of any volatile solvent; on evaporation in open air it was entirely dissipated. The solid extract remaining on treatment with alcohol to remove salts consisted of inert extractive.

DISTILLED WATER EXTRACT.

Yielded 5.76 per cent. aqueous extract, consisting of starch, mucilage, dextrin, glucose.

DILUTE SODA (0.2 PER CENT.).

Yielded 3.21 per cent. extract, consisting of albuminoids and extractive.

DILUTE HYDROCHLORIC ACID.

Extract 1.1 per cent. containing extractive and calcium oxalate.

Lignin 5.84 per cent. Ash 2.65 per cent. Residue.

Quantitative estimation was made of only those constituents which are of importance among plant products, which are likely to play a part in their medicinal value.

The balance of the constituents as starch, mucilage, albuminoids, extractives, etc., are common to most plants and are of no interest or value.

SUMMARY.

	Per Cent.	Per Cent.
Benzol ext	4.99	
Solid hydro carbon		0.13
Fixed oil		2.50
Resin		2.36
80 per cent. alcoholic ext	1.88	
Resin, 0.16 per cent, alkaloid, tannin, glucose		
Distilled water ext	5.76	
Starch, mucilage, dextrin, glucose		
Dilute soda	3.21	
Extractive, albuminoids		
Dilute hydrochloric acid	1.10	
Extractive, calcium oxalate		
Lignin	5.84	
Ash	2.65	
Moisture	9.72	
Residue	64.85	
	100.00	

REPORT OF ONE HUNDRED AND NINE OPERATIONS, PERFORMED AT THE LONG ISLAND COLLEGE HOSPITAL DURING THE REGULAR SESSION OF 1892–3.

BY J. S. WIGHT, M.D.,

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CASE I.—C. B., a sailor, eighteen years of age, was admitted to the hospital, September 16, 1892, on account of disability caused by incomplete descent of the left testicle. When he stood up, the testicle would appear at the external inguinal ring: when he lay down, the testicle went back into the abdominal cavity, where it could not be felt; and when the testicle was in the inguinal canal,

it was compressed so as to cause more or less pain. The operation of exsection was performed September 21st: The testicle was brought down; the inguinal canal and the spermatic cord were seized with a pair of forceps; the object was to keep the testicle from disappearing during etherization. An oblique incision over the inguinal canal exposed the spermatic cord and the testicle, which was small and only partially developed. The spermatic cord was transfixed near the internal ring, and ligated in two parts with a strong piece of catgut. The wound was completely closed with deep aseptic silk sutures, which acted as ligatures; then a compress was applied. At the end of a week the sutures were removed, when there was primary union, except a small point near the middle of the line of apposition of the cut surfaces.

Case II.—A gentleman, thirty-three years of age, who had been suffering from hydrocele for several years, and who had been tapped by Dr. Skene, his family physician, came into the hospital September 21, 1892, to get a radical cure. Assisted by Dr. W. H. Skene and the internes of the hospital, I operated September 22nd. After etherization, I thrust a long knife into the sac, from below, and then cut again from above, evacuating the fluid as the incision was made complete. Two large pieces of the enlarged tunica vaginalis were excised; the testicle was found quite normal, though smaller than usual under the circumstances; the wound was dressed aseptically, and very slight inflammatory disturbance followed. On the sixth day I found the tegumentary parts so much contracted as to leave the testicle practically exposed, and held so by adhesions. The next day I performed the following operation; The adhesions were simply torn through, liberating the displaced testicle; the edges of the tegumentary flaps were cut off, so as to afford a fresh surface; then the flaps were brought together with aseptic silk sutures inclosing the testicle; the parts were dressed antiseptically; primary union took place, with very little inflammatory disturbance; the sutures were removed at the end of five days; and the patient left the hospital October 8, 1892, with a radical cure.

Case III.—G. O., a laborer, nineteen years of age, on May 10, 1892, ran a tack through the middle joint of his left fore-finger. The injury was followed by severe septic inflammation. The result was anchylosis of all the joints of the injured finger. The flexor and extensor tendons had become firmly adherent to their sheaths. The disability was complete. September 28th, the case

came under my care, when I amputated the finger, sawing off the distal end of the metarcapal bone obliquely so as to form a shapely hand. As the tissues did not appear to be in a condition favorable for primary union, the wound was packed with aseptic gauze, in order to obtain secondary union. On the second day the wound was dressed, and the digital artery bled so as to require a suture-ligature. The case did well, and the patient was discharged from the hospital on the 10th of October, being referred to the Dispensary for further treatment.

Case IV.—Mrs. M. J., thirty-three years of age, about August 15, 1892, had the inner side of the left hand caught by a closing door, causing a compound dislocation of the little finger and a fracture of its first bone. The case came to my Clinic, September 28th. There was still septic inflammation of the hand, and the wound was discharging pus. The finger was entirely useless, and there was no way of restoring its function. I amputated it, removing the distal end of the metacarpal bone, so as to give the patient a presentable hand. I applied the electro-cautery to the entire surface of the wound, and applied an aseptic dressing; the patient went home.

Case V.—Miss C. T., seventeen years of age, the last week in August, 1892, caught her left hand in machinery, and received a compound fracture of the terminal joint of the left index finger, accompanied by an outward dislocation of the end bone. On September 28th, I exsected the fragments of the head of the middle finger-bone and a thin slice of the base of the end-bone, shortening the index finger about one-half inch. The wound was dressed antiseptically, and the finger and hand were put on a well padded wire splint which was moulded so as to fit and support the index finger in good position. Then the case resembled one of compound fracture. I have found it useful to save a finger with two bones, one of them being longer than a normal finger-bone, by means of union of the fragments of two bones. This case did well, resulting in repair, that afforded only moderate disability and slight deformity.

Case VI.—E. D., a boy, eight months old, was brought to my Clinic, September 28, 1892, having a large congenital angeioma of the right hand, for the most part on the back of the carpus and metacarpus, the fingers being smaller than those of the other hand. I made a longitudinal incision along the middle of the back of the hand, and removed the larger part of the diseased

structure, at the same time leaving the skin. The electro-cautery was applied to the entire surface of the wound, which was packed with aseptic gauze. On the third day, when the dressing was renewed, there was no hæmorrhage. On October 12th, the wound was nearly healed, and the growth was nearly as large as it was before the operation. The mother took the patient from the hospital, and I have been unable to learn the result.

Case VII.—J. Mc—, a laborer, twenty-four years of age, October 1, 1892, slipped and fell astride the wheel of his truck, and had retention of urine. He came to the hospital the day after the injury, still being unable to pass his water, and had the signs of a severe contusion of the perinæum. Several attempts to pass a catheter failed. On consultation, it was deemed advisable to make perineal section and an external opening of the urethra. After etherization, I found no difficulty in passing a lithotomy staff. I made a median section of the perinæum, and found no wound of the urethra, which I exposed for nearly two inches. I did not think it best to open the urethra. The blood of the hæmatocele was evacuated and the wound was dressed antiseptically. The case progressed favorably, the surface of the wound presenting healthy granulations in a few days. October 4th, I put in six deep sutures in order to bring the granulating surfaces into apposition. Superficial sutures along the edges of the skin were required to complete the apposition.

Case VIII.—October 3, 1892, a man, thirty-six years of age, was admitted to the hospital, in a state of shock and collapse, from having his "throat cut" with a razor, just above the hyoid bone. The cut extended from the right to the left, beginning just in front of the angle of the lower jaw on the right side and ending on the left side under lobe of the ear. Neither the throat nor the larynx was opened. The hæmorrhage had been profuse, causing very severe shock. About nine o'clock on the evening of his admission to the hospital, I ligated the partly severed facial vein of the left side and the accompanying artery; also the facial artery of the right side, as well as several bleeding points. The wound was dressed open and antiseptically until the following morning. The next morning I put in twelve deep sutures closing the entire wound, to apply the sides of the cut to each other as accurately as possible; ten superficial sutures were put in to adjust the cutaneous edges for the purpose of obtaining primary union. October 14, I removed the deep sutures, and instructed the house-surgeon to take out all

the rest the next day. The union was good except at two points: one at the seat of the left submaxillary gland; the other near the right end of the "cut," where there had been some oozing of blood between the flaps.

Case IX.—Mrs. R., housewife, thirty-four years of age, was admitted to the hospital October 3, 1892, for amputation of right breast. One year before, 1891, I amputated the left breast on account of a large sarcoma which was just ready to break down. There was a large growth on each side of the neck above the clavicle, and the right breast was considerably enlarged. This patient had been treated during the intervening year with the bromide of arsenic; the dose had been one-fortieth of a grain, which was doubled from time to time; every two or three weeks the arsenic was omitted; occasionally she had carbonate of lime in ten grain doses with tr. of columbo. The growths on the neck had largely disappeared; the scar of the previous operation was quite as normal as one that follows the closure of a large wound in healthy tissue; the right breast had diminished in size to some extent. As the patient desired to have it removed, I operated October 4, the day after admission to the hospital. The operation was performed in twenty minutes. The breast was removed by an elliptical incision, the bleeding being averted by pressure made with the fingers of the assistants, and by the application of hæmostatic forceps. Then the entire surface of the wound was irrigated with a 1 to 3,000 solution of mercuric chloride. No ligatures were applied, the sutures being so put in as to prevent hæmorrhage. I use curved needles which are from three to six inches in length; each ligature takes up a layer of tissue from side to side, so that, when it is tied, it brings the surfaces in contact and prevents the blood from escaping from the vessels. One of these needles is put under or through the end of any bleeding artery, which can, in this way, be completely ligated. I have not used a ligature in an amputation of the breast for many years. This manner of closing the wound does away with the need of a drainage tube, which is certainly a very important advantage.

Case X.—H. S., a groceryman, twenty-five years of age, was admitted to the hospital September 18, 1892. He had severe arthritis of the left knee; it was treated in the usual way until October 5th, when I put a drainage tube through the knee-joint under the tendo-patellæ, in the following manner: A long narrow bladed knife was pushed through the joint, at the place indicated,

from side to side; a pair of forceps seized the point of the knife and followed it as it was withdrawn; the forceps then grasped the end of a drainage tube and pulled it through the joint; the joint was then irrigated with a 1 to 5,000 solution of mercuric chloride; the irrigation was repeated every two or three days, and the tube was removed October 13th.

Case XI.—A schoolboy, eleven years of age, was admitted to the hospital August 15, 1892, for disease of the right hip-joint, from which he had suffered since he was three years old. The thigh was adducted and flexed, as well as inrotated; there was a sinus in front, going down to the location of the joint; pus was burrowing in the soft parts of the hip; the upper end of the femur had formed a bony union with the acetabulum. October 5th, I performed the following operation: A free incision was made externally down to the great trochanter, letting out considerable pus; about one inch and a half of upper end of the femur was cut off with the saw, bone-forceps, and chisel; the pieces were chiseled out of the acetabulum; then limb could be reduced to a position nearly resembling the normal; all the sinuses were "laid open" with the knife and scissors. Some of the bone was hard like ivory, some was so soft that it could be cut with the knife, and some was in a state of osteoporosis; the head and neck of the femur had for the most part been absorbed. The wound was dressed antiseptically, and a long fenestrated splint was applied.

Case XII.—R. L., a girl, four years of age, was brought to my clinic, October 5, 1892, having a vascular growth about as large as the end of her little finger, on her face just above and near the left angle of the mouth. It had grown up from a small nævus during the three or four months before I saw her. I transfixed the base of the growth with a silk ligature, and tied it in two parts. My little patient declined to take an anæsthetic, and shed two or three large tears, not making any outcry during the operation. The growth came away in a few days, and a cure resulted.

Case XIII.—R. T., an engineer, thirty-eight years of age, injured the end of the middle finger of his left hand, in some machinery, and about three weeks after came to the hospital for treatment. A sharp piece of the end bone was projecting from the wound, which was delayed in healing. I separated the soft parts from the bony projection, which I cut off with a pair of bone-

nippers. The wound healed up in a few days. This patient did not take an anæsthetic.

Case XIV.—October 9, 1892, a woman, about fifty years of age, was severely kicked by her husband, and was conveyed to the hospital, where I found her suffering from shock. She had a considerable hæmatocele in the left inguinal region, in the location of an inguinal hernia. She gave the history of having had a hernia at the seat of the injury. She had great pain and tenderness. Assume that she had only a hæmatocele, and there would be no objection to cutting down and evacuating the blood; but if she had a hernia complicating the injury, an explorative operation would be imperative. The patient being put under ether, I opened the cavity of the hæmatocele and removed the blood, which was, for the most part, coagulated. There was no appearance of hernia. The wound was made antiseptic, and healed by granulation in about two weeks.

Case XV.—Mrs. T., forty-five years of age, was seen by me, for the purpose of removing a tumor from the left scapula. I found the tumor was a sarcoma, and advised her friends to take her to the hospital, in order that she might receive constant attention. I told her friends that it might be necessary to remove the entire upper limb, as well as the scapula. On the 13th of October, 1892, assisted by Drs. Lewis, Cochran, Rogers, Rae, and the House Staff, I exsected the left scapula; Drs. Lewis and Rae compressed the subclavian artery. I made an incision from the outer end of the clavicle downward to the lower angle of the scapula; then I made another incision from the same point over the clavicle backward and downward until it reached the lower end of the first incision; these flaps were dissected up until the borders of the scapula were exposed well up toward its neck; the outer end of the clavicle was then severed with a pair of bone-cutters, not far from the acromion; the lower portions of the scapula were then cut from the ribs, with which they had formed strong adhesions; the acromion was seized with the lion forceps, and forcibly elevated so as to sever the posterior part of the capsule of the shoulder-joint, the arm being drawn forcibly forward; the entire axillary border of the scapula was detached with a pair of scissors, when the rest of the capsule of the shoulder-joint was cut through; the attachments of the soft parts to the coracoid process were severed, partly with the scissors and partly with the knife: finally the entire scapula was enucleated by cutting through connections its upper

border made with the subjacent structures. The time occupied in the exsection proper was thirty-one minutes.

Case XVI.—M. T. K., a clerk, fifty years of age, had stricture of the urethra. October 18, 1892, being unable to "pass his water;" an attempt to use the catheter having failed, he was brought to the College Hospital; he passed considerable blood; it was impossible to pass any instrument into the bladder through the urethra. Then aspiration was performed by Drs. Rogers and Swayze. The patient passed a comfortable night; but the retention continued the next day until about four o'clock in the afternoon, when he passed a considerable quantity of water. He said he felt all right and left the hospital.

Case XVII.—G. L. F., a boy, sixteen months of age, had a congenital nævus on his right cheek; it was about three-fourths of an inch in diameter. After the administration of chloroform, I made an incision around the nævus with the electro-cautery knife down to its deeper portions, and then ligated what was left by transfixion. This little patient had serious chloroform narcosis. The treatment was elevation of the body; artificial respiration; hypodermic injection of whiskey; inhalation of nitrite of amyl. It was about twenty minutes before satisfactory recovery took place. The nævus was cured.

Case XVIII.—Mrs. A. F., thirty-four years of age, had a fall August 15, 1892, and injured her right ankle; the fibula was broken about three inches above the joint; the internal malleolus was broken off transversely; the foot was dislocated backward nearly two inches; the soft parts were greatly swollen. Dr. Shepard saw her and instituted correct treatment. But the patient persisted in going about house to attend to domestic duties. About the middle of October her doctor brought her to the College Hospital for advice and treatment. She was put under the influence of ether; a sand-bag was placed under her heel; then I sat down upon the front of her leg; at the same time I took hold of the anterior part of her foot, and used the foot as a lever to break up the adhesions; the pressure upon the leg and the manipulations of the foot enabled me to reduce the foot nearly to its normal position and remove the deformity of the fibula to a considerable extent. The result was better than I could have obtained by means of a cutting operation. I put the foot and leg upon my modification of Dupuytren's splint for Pott's fracture. The case turned out well, giving the patient a useful limb with moderate deformity.

Case XIX.—H. B., a janitor, forty-three years of age, having a moderate-sized epithelioma of the right side of the lower lip, came to my Clinic, October 19, 1892, and submitted to an operation without anæsthesia. I cut out a V-portion of the lip, including the cancer, with a sharp pair of scissors, the hæmorrhage being controlled by Drs. Swayze and Thomas. The cut edges were brought together by means of four aseptic silk sutures, so put in as to control the flow of blood completely. The mucous edges of the lip were sutured also. In these cases, as a rule, I apply no dressings, no retentive slip of adhesive plaster. Primary union took place.

Case XX.—Mrs. M. E., forty years of age, had a tumor growing on the back part of the neck for four or five years; it was just to the left of the median line and the upper portion of it was close to the skull. Its general appearance was that of a fibro-lipoma. The growth was about three inches in diameter, and appeared to be firmly attached to the surrounding structures. The hair was cut off, and the field of operation made aseptic. The tumor was exposed by a longitudinal incision, and had to be dissected out; it had considerable vascular connections. The operation was quite bloody; the hæmorrhage was controlled by deep silk sutures, which were put in to close the wound, and an aseptic dressing was applied. The wound healed by primary union, and the patient was discharged from the hospital at the end of a week.

Case XXI.—S. W., a clockmaker, forty-two years of age, was suffering from irritable and painful sphincter ani and serious hæmorrhoids; he came to my Clinic, October 19, 1892, for operation. After anæsthesia, I divulsed the sphincter with my thumbs and fingers, and then ligated the hæmorrhoids by transfixion with a curved needle and double ligature. One row of ligatures encircled the anal orifice; the other row was applied within the anus. Then the ligated hæmorrhoids were incised with the points of a sharp pair of scissors, in order to surely bring about their complete destruction. This patient made a good recovery in about two weeks.

Case XXII.—A. B. W., a carpenter, twenty-two years of age, came, October 19, 1892, after having suffered eight days from inflammation of the palm of the right hand, and requested an operation for relief. Fluctuation and the presence of pus were detected. He said he would try to have the operation performed without an anæsthetic. I made two incisions; one between the

tendons of the index and middle fingers, the other between the tendons of the ring and little fingers; pus flowed freely from the first incision. The operation was very painful. This patient left the Clinic and did not return.

Case XXIII.—Mr. C., a car driver, twenty-seven years of age, had a large sebaceous cyst in the left occipital region. No anæsthetic was administered. The hair was cut closely, and the part made aseptic. An incision was made down to the sac from side to side, so as to separate the super-imposed tissue from the outer surface of the wall of the sac;then with an aneurismal needle I enucleated the entire sac without breaking it. In some cases it is impossible to remove the cyst without rupturing it. After this operation the patient needs very little attention.

Case XXIV.—M. N., a school boy, six years of age, had a considerable swelling in the left inguinal region; it was first seen by his mother about six weeks ago; he came to the College, October 26, 1892. The evidence excluded other affections and indicated the existence of hydrocele of the cord; the swelling was tense and firm, though somewhat movable; there was no impulse on coughing; and reduction was impossible. The sac was exposed, and found to contain such fluid as exists in a hydrocele; this was shown by means of an exploring needle. The sac was opened, and the fluid evacuated. The wound was left open in order that it might heal by granulation. The patient made an excellent recovery in about two weeks.

Case XXV.—J. R., a barber, twenty-nine years of age, two years previous, fell down seventeen steps of stairs, and abscesses and fistulæ followed in the ischio-rectal and gluteal regions. I operated upon them at that time. November 2, 1892, he returned, having a fistula on the right side extending downward to a point between the upper part of the coccyx and the ischium; I opened the tract as extensively as possible, causing free hæmorrhage. Then I used the thermo-cautery freely, and packed the wound with aseptic gauze. This patient has posterior curvature of the spine—angular curvature, perhaps due to tuberculosis.

Case XXVI-—J. R., a school boy, twelve years of age, was boxing and fell upon his right elbow, breaking off the external condyle. When seen by the doctor, the forearm was dislocated backward and outward; the reduction was easily accomplished.

The case was treated subsequently by another doctor, who employed a right-angled splint. Four weeks after the accident the boy was brought to my Clinic, having on a posterior splint, with the forearm extended about twenty degrees beyond a right-angle with the arm; in this position the forearm was slightly movable. After the right-angled splint had been removed, the forearm became fixed in the above-noted position. Any attempt to move the forearm toward a right-angled position caused much pain. I operated as follows: I stood behind the patient so as to prevent him from moving or getting away; then I took hold of the hand and the forearm and forcibly brought the latter up to a right-angle with the arm; the force used was very considerable, and the adhesions were felt and heard "giving way." The limb was put upon a right-angled splint. In this place I will make the following statement: In some instances after fracture of the condyloid end of the humerus, I have seen the forearm have a constant tendency to become more or less extended; in other instances, I have seen the forearm have quite as constant a tendency toward flexion even beyond a right-angle.

Case XXVII.—J. McK., a laborer, about sixty years of age, came to my College Clinic, November 2, 1892, having a swelling of the right side of the scrotum. The diagnosis of hydrocele was made, because the swelling fluctuated and was translucent. It was a small hydrocele, and did not cause much inconvenience. I tapped it with an exploring needle, and slowly "drew off" about two ounces of straw-colored fluid. It is safer at times to use an exploring needle than a trochar and cannula; when there is a small quantity of fluid, the trochar might easily wound the testicle.

Case XXVIII.—L. C., a school boy, ten years of age, came to my Clinic, November 9, 1892, having bony anchylosis of the right knee, the leg was nearly at a right-angle with the thigh, and was outrotated; the knee-pan was absent, having been removed the previous year; the femur, in the lower third, had a considerable curve forward; and the soft parts over the anchylosed joint were not in good condition, having been bruised by a recent fall. The disability was very great; the patient had to use crutches. The case required amputation or exsection; an artificial limb would be required after amputation of the thigh, and then there would be much disability; exsection of the knee might leave the patient with a very useful limb. I made an anterior flap, exposing the lower end of the femur and the upper end of the tibia. Then I sawed

through the bone, and pushed the lower end of the femur forward; I cut off with exsection saw about two and one-half inches of this bone, leaving the surface convex; the next step was to saw through the upper end of the tibia, so as to leave the cut surface concave; the convex surface of the lower end of the femur fitted into the concave surface of the upper end of the tibia. A drill perforated the anterior part of the upper end of the tibia upward and backward, so that its point came out near the centre of the lower end of the femur; a wire nail was then driven through the hole and made to penetrate some distance into the cancellous bone of the femur; this was to prevent lateral displacement. Finally the limb was laid on an angular splint which kept it moderately bent at the knee—that is, the seat of operation. The bend in the lower end of the femur had to be taken into account; so the angle at the junction of the tibia and femur was made somewhat less than usual. A drainage tube is important in such a case. The dressings were removed on the third day after the operation, also on the sixth day, and the parts were in excellent condition.

Case XXIX.—A. H., a sailor, fifty-five years of age, had contracted sphincter ani, accompanied by hæmorrhoids. At first he declined to take an anæsthetic; but after the transfixion of one pile with the needle, he requested me to put him to sleep; ether was administered. Then the sphincter was stretched, and the piles were ligated in the usual way.

Case XXX.—F. R., a builder, forty-five years of age, was admitted to the hospital about November 18, 1892, for malignant disease of the abdomen the case seemed to be favorable for exploration with the trochar and cannula. Four or five weeks before admission to the hospital, the patient was seen by Dr. Riggs, who aspirated the bladder four or five times for retention of urine, and drew off large quantities of urine. The abdomen was tympanitic on both sides, and was dull and fluctuating in front. High up on the right side there was considerable submural hardness. The opinion of those who saw the case was that explorative tapping would be proper. A small trochar and cannula were used; and when the instrument had penetrated more than half its length, a dark fluid containing dark flocculent matter oozed out. The trochar was removed and the patient carried to his bed. In the mean time the left lower limb had been greatly swollen, accompanied by considerable discoloration. This patient died in a few days. Dr. Van Cott made an autopsy, disclosing extensive cancerous disease of the abdominal organs.

CASE XXXI.—Dr. R., a physician, thirty-seven years of age, had a large variocele on the left side; it had been developing for fifteen or twenty years. He suffered from despondency from time to time. He had been troubled with eczema of the scrotum. The operation was performed November 12, 1892. The varicose veins were exposed and separated from the artery and the vas deferens. A cat-gut ligature was put around the mass of veins just above the testicle, also one was put around it about three inches higher, the intervening portion was excised. The stumps were sutured end to end with fine cat-gut, a drainage tube was inserted, the scrotum was brought together with silk sutures, two of which were passed through the venous stumps in order to reinforce the structure, which would act as a kind of a suspensory ligament for the testicle. There was but slight swelling of the scrotum after the operation The drainage tube was removed November 18th. The patient continued despondent, and was very nervous; the peculiarities of the patient were in part derived from hereditary tendencies. This patient made a good recovery.

CASE XXXII.—J. R., a laborer, forty-two years of age, fell November 12, 1892 and struck his head against the edge of the curb-stone. He was conveyed to the College Hospital, where an examination disclosed a compound fracture of left side of the vertex of the skull. The line of fracture was nearly straight, being about four inches in length. At a point near the middle of this line, it was found that some of the bone had been depressed. There were no signs of compression of the brain; slight evidence of concussion and laceration of the brain was present; the patient could walk and talk and give a good account of the accident. On consultation with my colleagues, it was decided to operate the next morning, November 13, 1892. The operation was performed as follows: The wound was enlarged slightly in front; the flaps, for such they were, were drawn aside by retractors; at the central part of the fracture I cut away the bone on the right side with a sharp chisel and mallet, and picked out two spicula of bone which had lacerated the dura; then I had to cut out more bone to make an opening large enough to remove a rough piece of the inner table of the skull about an inch and one half in length; a considerable clot was found and broken up and washed out with an antiseptic solution; a drainage tube was introduced, and the flaps were stitched together. This patient made a good recovery.

CASE XXXIII.—T. H., a boy, three years of age, and somewhat under the normal size, had the usual symptoms of stone in the

bladder; at times a slight click could be made out with the searcher, as if there was an encysted stone or a very small one. The urethra was very small, and would admit only a No. 6 staff. I operated November 16th before the medical class, with my hospital colleagues present. The knife was held in the median position until it entered the grove of the staff, when it was lateralized to the left and made to increase the size of the cut as it was withdrawn. It was then pushed along the groove of the staff far enough to partly sever the fibres of the neck of the bladder; a grooved director was then passed into the bladder, when I pushed my forefinger between the director and the staff until the end of it felt the stone; the staff was removed and the lithotomy forceps introduced but the stone was not grasped, then the scoop brought out a stone about one-half inch in diameter. The bladder was washed out with a warm carbolic solution, and the patient was put to bed.

Case XXXIV.—Mrs. M. M., twenty-six years of age, about two years previous to her admission to the College Hospital had an abscess on the outside of the right thigh. A fistula extending from the knee to a point near the hip had been left. The patient had been treated in another hospital for about five months. After the administration of ether, I introduced a long grooved director into fistula, and laid it completely open by means of a pair of angular scissors. The ill-conditioned layer of granulations was scraped off the surface as completely as possible. The wound was wiped out with towels saturated with a 1 to 2000 solution of mercuric chloride, and an antiseptic dressing applied.

Case XXXV.—W. W., a clerk, twenty-one years old, had an exostosis on the inner aspect of the neck of the first left metatarsal bone; it was about an inch and a half in diameter, and had been growing from childhood. The right radius was much deformed, causing some disability. The skin on the summit of the growth was not in a condition to be saved. Two longitudinal flaps were dissected from the upper and lower sides of the projecting bone, and the tumor was partly cut off with a Hay's saw; the bone cutter completed the severance. The flaps were brought together with silk sutures.

Case XXXVI.—A. B., a sailor, forty years of age, came to the hospital, November 15, 1892, having a swelling on the right side of the neck over the middle part of the sterno-cleido-mastoid muscle. It had been about four weeks forming; it had a point of less resist-

ance and there was some evidence of the existence of a wall of "limiting fibrin." The patient suggested that the swelling might have a specific origin. Without an anæsthetic I cut it open and found some ill conditioned pus and considerable necrotic matter. The hæmorrhage was slight. The dressing was antiseptic. The treatment was tonic and anti-syphilitic. The recovery was speedy.

Case XXXVII.—H. D., a farmer, fifty-one years of age, came to the hospital, November 9, 1892, suffering from pains in the branches of the left great sciatic nerve; medical treatment for nine days did not benefit him. In the spring of the same year his left foot had been wounded by the tooth of a harrow while he was at work in the field. The scar was somewhat hard and painful on pressure. On November 18th, I exsected this scar; it was located over the heads of the first and and second metatarsal bones. Deep sutures were introduced and primary union followed. The patient left the hospital, November 23d, improved, and I have not seen or heard from him since.

Case XXXVIII.—J. C., a Norwegian sailor, had inflammation of the bursa in front of the right patella. I operated for radical cure, November 21, 1892. A vertical incision was made into the bursa; the fluid and the "rice-like" bodies were evacuated; the adventitious bands were excised, the entire surface of the cavity was scraped with a bone scoop. Deep sutures, six in number, were put in so as to make complete closure of the bursa, and the edges of the cut surface were brought together with superficial sutures. The deep sutures were tied over a compress made of aseptic gauze. On the ninth day the stitches were all removed; at that time complete union had taken place. The deep sutures pass under the fibrous tissue in front of the patella, and require considerable care and skill in their introduction.

Case XXXIX.—R. F., a German sailor, thirty-eight years of age, was suffering from synovitis of the left knee-joint, and came to the hospital for treatment. The case had been about four weeks developing. After making the field of operation thoroughly aseptic I passed a long narrow bistoury through the joint just back of the tendo-patellæ and in front of the femoral condyles. A long pair of catch forceps followed the knife as it was withdrawn, and then seized a drainage tube which was drawn through the joint. The joint was then irrigated with a 1-3000 solution of mercuric chloride,

the accumulated fluid being thoroughly washed out. Antiseptic dressings were applied. At the end of four days the drainage tube was removed.

Case XL.—Second operation in Case XXIX, A. H., fifty-five years of age, had two piles that did not become completely strangulated, and so did not slough off. Ether was administered, and the piles were removed with electro-cautery knife. The larger one of the two was supplied by a large hæmorrhoidal artery, nearly as large as the radial. A suture ligature had to be applied before the hæmorrhage ceased. This patient did very well, and was so far recovered that he left the hospital in about two weeks.

Case XLI.—Eva S., three years of age, had congenital equinovarus of the left foot, with marked deformity. I severed the tendo-Achillis by inserting the knife back of the tendon and cutting forward. Firm pressure on the bottom of the foot separated the ends of the tendon fragments over an inch. Then I cut the plantar fascia which had contracted and caused nearly right angled flexion of the foot. The knife was inserted below the fascial band, which was severed by cutting upward. Using considerable force I crushed the foot nearly into a straight position. The foot and leg were firmly bandaged to a well-padded splint, fashioned after my modification of Dupuytren's splint for the treatment of Pott's fracture. The operation was performed, November 30. December 3rd, I removed the splint and reapplied it. The case was progressing favorably.

Case XLII.—Mary C., one year old, had a nævus at the root of the nose just above a line between the eyes. It was of considerable size and very vascular. Several injections of alcohol had failed to cure it. I cut out nævus with the electro-cautery knife. A large artery supplied blood to the growth at its lower part. I applied a suture-ligature which controlled the hæmorrhage and put in another suture, closing up the wound almost completely. There was no hæmorrhage except at the seat of the arterial supply mentioned. This case did well, and there was only a small scar left.

Case XLIII.—W. D., five months old. had a small and very vascular nævus over the region of the anterior fontanelle. An effort to cure it with injections of alcohol failed. I made an incision around it with the electro-cautery knife, and then, raising it up with forceps, sutured its basal connections. There was no hæmorrhage during the operation. Just enough tissue was re-

moved to encroach slightly on the normal structure. The wound was dressed antiseptically. The result was favorable, only an insignificant scar being left.

CASE XLIV.—J. F., about sixty years of age, five years ago had an operation for radical cure of hydrocele of the left side. The operation was by free incision, inflammation and granulation. The result was very perfect. On November 30, 1892, I operated for radical cure of hydrocele on the right side. The field of operation was made aseptic; a long, narrow bistoury was pushed through the bottom of the sac; it was then pushed out again about four inches higher up; a long pair of catch forceps followed the knife as it was withdrawn; a drainage tube was then seized and pulled through the cavity of the tunica vaginalis; a 1-4000 solution of mercuric chloride now washed out this cavity, and the drainage tube was fastened in, after which an aseptic dressing was applied. This case made a good recovery.

CASE XLV.—Mrs. C., about forty years of age, five weeks ago wounded her right hand over the metacarpo-phalangeal joint of the index finger, while opening a can of lobster. Septic inflammation followed, and resulted in necrosis of the first finger bone and destruction of the joint at its base. November 30, I made oval flaps and sawed distal end of the metacarpal bone off obliquely, in order to improve the shape and the utility of the hand. The entire surface of the wound of operation was seared with the electro-cautery knife, for the purpose of disinfection. The open dressing was applied. On December 4th, the wound was healing, and the appearance of the hand had improved.

CASE XLVI.—C. C., a three-year-old boy, had phymosis, with adhesion of the prepuce to the glans, and accompanied by irritability and nervousness. The prepuce was not contracted, but adherent. The usual dorsal incision was made with the sharp point of a curved bistoury and with a pair of scissors. The adhesions were very firm, and required much force to separate the prepuce from the glans. The end-portion of the prepuce was cut off all around with a pair of scissors. A fine catgut suture began at the angle of the incision on the back of the neck and went continuously around the cut edge until it arrived at the point of outset, where it was tied with the other end of it. Two important objects are gained by this suture: The mucous and cutaneous edges are quickly brought together; the suture is absorbed and does not require to be removed by the surgeon. This case did well.

Case XLVII.—December 1, 1892, Wm. S., fourteen years of age, had his right hand drawn into a press; the metacarpus and the carpus were crushed; the hand was torn from the forearm at the wrist-joint. The operation was performed about four hours after the accident. The forearm was extended and the anterior flap was made by transfixion; the forearm was pronated, and the posterior flap was made by incision. The radius and ulna were sawed off from before backward, and the last stroke of the saw severed both bones at the same instant. The ulnar nerve was drawn out a little more than two inches and cut off, and then the ulnar artery was ligated. The radial nerve was drawn out and about two inches of it cut off. The radial artery was found under the integument in an abnormal position and tied; the amputation was made near the middle of the forearm and the flaps were left longer than ordinary. The interosseous vessels were secured by a suture ligature; the needle was passed close to the outside of the ulna in one direction and returned in the opposite direction close to the inside of the radius, and then the ends of the ligature were tied; the hæmorrhage ceased. The sub-tegumentary portions of the flaps were brought together over the cut ends of the bones by means of a continuous suture of catgut, and then a drainage tube was passed through with a pair of catch forceps. The stump was dressed in the usual way. December 5th, the drainage tube was removed, and another was inserted; the one removed contained a clot of blood, making it completely impervious.

Case XLVIII.—J. M. F., twenty years of age, had an ischio-rectal abscess in May, 1892, and came to the hospital, and was operated on, December 2, 1892, by Dr. Rogers, for a fistula which extended into the rectum. The cavity of the fistula was opened and thoroughly scraped and scarified. The case made a rapid recovery.

Case XLIX.—Mr. B., sixty years of age, was admitted to the hospital December 1, 1892, with an opening in front of the patella from an abscess which began about three weeks previous. An exploration showed that the knee-joint was not involved. The abscess cavity was very extensive. Counter openings were made in five different places around the knee, and as many drainage tubes were inserted. This patient improved rapidly and soon left the hospital nearly cured.

Case L.—A very muscular policeman, forty-five years of age, fell into the hold of a vessel and struck on his left shoulder, December 2, 1892, when he was brought to the College Hospital. He

had a sub-clavicular dislocation of the left humerus. There was a severe contusion on the outer aspect of the left arm just below the acromion, showing that this was the part upon which he struck. After complete etherization, it required one of my assistants and the house surgeon to make the reduction by pulling on the limb downward, backward and outward. The patient was discharged from the hospital at the end of a week much improved.

Case LI.—A. P., a seaman, twenty-two years of age, November 29, 1892, fell and broke an earthen jug, a sharp piece of which made a lacerated wound of left elbow at the seat of the ulnar nerve. He came to the hospital on the 5th of December, with loss of sensation and very slight voluntary motion of the right ring and little fingers. On the 8th, I cut down upon the ulnar nerve where it passes the internal condyle, and found it bruised and nearly torn in two parts. I exsected the injured portion, about one inch in length, and sutured the ends with catgut, closing the wound so as to permit good drainage, and placing the limb on a nearly straight anterior splint. There was some improvement. After several weeks he left the hospital, with partial recovery.

Case LII.—J. S., three years of age, fell and struck the left side of his head, and when he was brought to the hospital he had a hæmatocele covering about one-half the surface of injured side of the head, and showing some signs of fracture of the skull. On December 8, 1892, I made an explorative incision, large enough to admit my finger, and found the skull denuded of periosteum for about one-half the extent of the hæmatocele, but there was no fracture. After thorough evacuation of the blood I put on an aseptic compress and did not remove it until the lapse of a week, when primary union of the surfaces of the entire cavity had taken place, leaving only the wound of exploration.

Case LIII.—K. D., a seaman, twenty-one years of age, in a low state of health, had an ischio-rectal abscess four weeks before admission to the hospital, December 6, 1892; it had opened spontaneously, and presented an unhealthy cavity; the fistula extended to the mucous membrane of the rectum. On the 9th of December, Dr. Cochran operated in the usual way, laying open the fistula and scarifying the unhealthy tissue of its wall. Under tonics, rest, nutrients, and asepsis, the patient began to improve.

Case LIV.—J. C., seventeen years of age, had been developing a painful swelling in the right iliac region for four or five weeks; during this time I had seen him twice, and advised an operation. He came into the hospital December 8, 1892, and I operated the next day. The diagnosis was that of pelvic abscess. He had no difficulty with his bowels, and the abscess was circumscribed. Aspiration failed to bring out any matter. Then I made an incision about three inches in length over the centre of the swelling, beginning just below the superior anterior spine of the ilium and going downward and inward, nearly parallel with its inner anterior border. There was considerable hæmorrhage; and there came from the abscess cavity some blood, some pus, and considerable necrosed tissue. My finger went down between the sub-peritoneal fascia and wing of the ilium. The peritoneal cavity was intact, and the vermiform appendix was not involved. Antiseptic irrigation made the abscess cavity surgically clean. There was no elevation of temperature, and the patient made a rapid recovery. I have operated on several cases like this one. They are very interesting, and it is important to make a correct diagnosis.

Case LV.—James McS., seventy-two years of age, came into the hospital December 13, 1892, and was operated on the same day. Ten years previous I operated on his lower lip for cancer, and the disease did not recur until the lapse of about four years. On the day of his return the entire border of his lower lip had grown up for some distance with epithelium which projected in a ragged fringe; about one-half inch of the border of the lip had become infected. I did not think it expedient to give him an anæsthetic; nor did I think it would be safe to perform a long plastic operation. He lay down upon the table; I passed a strong silk suture just outside of and just below the angles of the mouth, to have control of the flaps; my assistants and the house surgeons were ready to control the hemorrhage; then, with a pair of curved scissors, I cut off the diseased border of the lower lip, by means of curved incision sutures; doubled up the cut edges, brought the two edges together and permanently arrested the hæmorrhage; then his mouth was made out of his upper lip, and was not at all sightly. In about one week, union had taken place, and the house surgeon removed the sutures. On the 24th of December, the upper lip had been drawn around on both sides so as to make the under lip nearly as long as what was left of the upper one.

Case LVI.—T. L., thirty-five years of age, in the habit of drinking, and occasionally having an epileptic fit, fell some distance and struck on the left foot about the first of November, 1892, severely injuring the left ankle. The diagnosis was fracture of the astragalus, fracture of the internal malleolus, with backward and inward dislocation of the foot. The swelling was excessive, accompanied by a marked tendency to mortification and the formation of extensive blebs. The parts were put into a wire-trough splint in order that the swelling might subside. Alcoholic delirium came on in a short time, and Dr. Rogers put on a splint of plaster-of-Paris to keep the limb from further injury. The soft parts over the lower end of the fibula sloughed, and the displacements could not be removed. December 13th, about five weeks after the accident, I exsected the lower end of the fibula, the lower end of the tibia, and the upper half of the astragalus, using the osteotome and mallet, as well as the lion-forceps. Then the foot could be reduced so as to make its relations with the leg nearly normal. Improvement was slow, but eventually the patient recovered with a useful limb.

Case LVII.—May N., seven years of age, with tubercular disease of lower end of the left fibula, was etherized, December 15, 1892, and the inflamed tissues were opened longitudinally with the electro-cautery knife, which was also used in making several adjacent punctures. The parts were dressed with iodoform and antiseptic gauze. This patient was much improved by rest, tonics and nutritious food. The local disease was for the most part arrested. Subsequently a small tubercular ulcer over the ankle was scraped out and cauterized with the galvano-cautery.

Case LVIII.—C. H., thirty-five years of age, December 16, 1892, was struck on the back of the head about midway between occipital protuberances and the mastoid process with a "sling shot," and soon after was brought into the hospital. He was suffering from concussion of the brain and shock. In the wound there could be felt an indentation of the bone. The hair was shaved off, and the skin was disinfected. The fracture was superficial, and trephining was not necessary. Primary union of the soft parts occurred, and the patient made a speedy recovery. Since the advent of antispetic surgery, explorative operations of the head can be performed without danger. The present practice is very different from the practice of years ago.

Case LIX.—Captain C. had a chronic hydrocele of the left side of the scrotum. It had been tapped from time to time for about ten years. He desired a radical cure. I passed a drainage tube through the scrotum, that is, into and out of the tunica vaginalis, evacuated the fluid, and washed out the cavity with a 1-5000 solution of mercuric chloride, and applied antiseptic dressings. He did not take an anæsthetic; he said there was only slight pain. At the end of a week, the tube having been drawn upward by the contraction of the scrotum, I put in another from the lower puncture to another one lower down. This patient left the hospital, January 1, 1893, in excellent condition, having a radical cure. He came to the hospital, December 13, 1892. Some time after leaving the hospital, an adventitious sac developed on the same side. I opened it, and there is no further trouble likely to arise.

Case LX.—J. E. W. had an ischio-rectal fistula, following an abscess that had occurred a year ago. I operated on December 16, 1892, in the usual way, opening the fistula and scarifying the surface, so as to get a new granulating surface. He made a very rapid recovery, going out of the hospital in about ten days.

Case LXI.—M. K., a lawyer, thirty-two years of age, had a compound fracture of the forefinger and middle finger of the left hand. The point of special interest in this case was an attempt to suture the tendons into the flaps after amputation through the continuity of the first bones of the fingers. The finger stumps have no tendons to move them. They are practically in the way. I have often had patients beg to have such stumps removed that had been carefully saved under the rules of conservative surgery. The rule is save all you can of a finger—all that you can make useful.

Case LXII.—J. W., a laborer, twenty years of age, had suffered for some years with an ingrowing nail of the left great toe. Under ether, the entire nail was removed by incision and avulsion. The diseased parts were cauterized with the electro-cautery knife. The relief was immediate, and the recovery was speedy. When a toe-nail is so diseased that it becomes a foreign body, it is better to removed, and save your patient both time and annoyance. The nail must be thoroughly removed, or it may grow again and cause trouble.

(*To be continued.*)

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EDITORIAL.

A NEW SOCIETY AND A NEW BUILDING.

What we believe to have been the most important meeting of medical men ever held in this city, was held at the residence of Dr. Skene, on June 14th. At this meeting was made what we hope is the beginning of a movement which will give to the profession a building adequate to its needs for many years to come.

The inception and inspiration of this movement came from Dr. C. N. Hoagland, to whose munificence in the erection and equipment of the Hoagland Laboratory the profession is already so much indebted. The movement is regarded by us as one which is likely to be historic in the annals of the medical history of this county, and we, therefore, deem it our duty to make a permanent record of its rise and progress.

While reading the proceedings of the Medical Society of the County of Kings, in a recent number of the JOURNAL, and the effort of that society to erect a new building, it occurred to Dr. Hoagland that if a new organization could be effected which would unite all the exist-

ing societies, such a body of men could maintain a building which would in its construction and equipment be adequate to the wants of the profession and an honor to the city. With this idea in his mind he called upon Dr. Raymond, and asked him if he thought the profession would unite for this purpose. The answer was, that the question could very soon be definitely determined. Dr. Hoagland authorized Dr. Raymond to say that if such a plan as he had outlined could be carried out he would contribute in a substantial manner to the enterprise.

The different societies were at once commuicated with and asked, in case they were willing to consider the proposition, to appoint respectively a committee of three; these committees to meet together and discuss the subject. Without exception all expressed a willingness to participate in such a conference, and appointed their committees. On June 14th, the committees met at Dr. Skene's residence.

The following is a list of the societies and their representatives: Kings County Medical Association, Drs. E. R. Squibb, T. M. Rochester and J. D. Rushmore; Medical Society of the County of Kings, Drs. J. C. Shaw, Z. T. Emery and F. D. Bailey; Brooklyn Gynæcological Society, Drs. A. J. C. Skene, W. Maddren and C. Jewett; Brooklyn Pathological Society, Drs. F. H. Stuart, J. M. Clayland and E. H. Wilson; Brooklyn Surgical Society, Drs. E. A. Lewis, H. W. Rand and H. B. Delatour; Brooklyn Dermatological and Genito-Urinary Society, Drs. S. Sherwell, J. M. Winfield and F. C. Raynor; Long Island Medical Society, Drs. L. Coffin, W. L. Rickard and A. L. Coville; Brooklyn Laryngological Society, Drs. R. Jeffery, N. L. North, Jr., and A. E. Smylie; German Medical Society, Drs. H. Bender, J. H. Droge and A. H. Schwab; Brooklyn Society for Neurology, Drs. T. M. Lloyd, W. Browning and T. L. Wells; Hospital Graduates' Club, Drs. F. W. Shaw, L. A. W. Alleman and H. H. Morton.

Dr. Skene was made chairman of the conference and Dr. Bailey, secretary. At the request of the chairman Dr. Raymond stated the facts as we have already given them, and Dr. Hoagland, who was present, was invited by the chairman to address the conference. In his remarks he stated his views on the subject of the unification of the profession, and said that in his opinion such a building as was needed could not be built for less than about $100,000, and expressed his willingness to give toward it $50,000, if the profession would provide the other half. At the close of his remarks, Dr. Raymond offered the following resolution: Resolved, that a sub-committee be appointed to formulate a plan for the formation

of a new organization, and the erection of a new building; the sub-committee to report back to this committee when ready, and that when a plan has been approved by this committee, it be forwarded to the individual societies for their action.

This resolution was seconded by Dr. Stuart, and in the discussion which followed, the chairman called upon the representatives of the societies to express their views. It was the unanimous opinion of all present that the movement was a most admirable one, and that the profession was never in better condition to carry out such a plan.

The resolution was unanimously adopted, and the following sub-committee, being one from each society, was appointed: Drs. Squibb, Emery, Jewett, Winfield, Wilson, Delatour, Jeffery, Droge, Lloyd, F. W. Shaw, and Coffin. Dr. Skene was made chairman of this sub-committee, and Dr. Bailey, secretary.

A unanimous vote of thanks was given to Dr. Hoagland for his magnificent offer, and for the interest he manifested in the welfare of the profession.

After the meeting, Dr. Skene entertained the committee in his usual hospitable manner, and the meeting adjourned, the participants feeling that the most important gathering of medical men which had ever occurred in Kings county had just been held.

SURGEON-GENERAL GEORGE M. STERNBERG, U. S. A.

The appointment of Dr. Sternberg to the responsible position of Surgeon-General of the United States Army, is an honor which is well deserved. It is also one in which the profession has a share, for Dr. Sternberg's residence in Brooklyn and his connection, as Director, with the Hoagland Laboratory, have made us feel that in his advancement the profession of the city was honored.

We have obtained his record and take great pleasure in publishing it, as it is one of which any member of the profession might well be proud. We wish the doctor the same success in his new position as he has had in those which he has hitherto held; a wish, which, if fulfilled, will make his tenure of the office a useful and brilliant one.

PROCEEDINGS OF SOCIETIES.

THE CARE AND MEDICAL TREATMENT OF ALCOHOLISM

Synopsis of paper read by Dr. Edward C. Mann, of Flatbush, Brooklyn, before the American Association for the Study and Cure of Inebriety, held at New York Academy of Medicine, New York City, March 23, 1893.

Dr. Edward C. Mann presented a paper on "Science vs. Folly in the Treatment of Disease Caused by the Abuse of Stimulants and Narcotics—A Plea for the Suppression of the Nostrum, Patent Medicine and Specifics in Rational Therapeutics." Dr. Mann showed that the difference between science and folly, between knowledge and ignorance or charlatanism in the practice of medicine, is the difference that exists between the man, who, as a pathologist, studies the modes of action of organs when they are alive and warm, at the bedside of the patient; who, as a pathological anatomist, studies the active alterations in the tissues which the disease has produced, the anatomy of diseased organs, post-mortem, and gives us a solid basis; who, as a clinical physician at the bedside, carefully examines the subjective and objective symptoms of disease, and in the investigation of the latter, learns the condition of the digestive powers and the whole gastro-intestinal tract, the pressure of the blood and its condition, of the respiratory apparatus, of the heart, the skin, the secretions and excretions, the kidneys, the locomotory powers, and the nervous system; who from the collective phenomena of the signs and symptoms of disease thus elicited makes his diagnosis and as a skilful therapeutist prescribes the remedies best calculated to relieve the perversion of the functions of the structures of the body; and the ignorant pretender and charlatan, who alike ignorant of pathology, pathological anatomy, symptomatology, diagnosis or therapeutics, knowing little as to how people live and still less as to how they die, boldly rushes before the public with a specific, nostrum or secret remedy that is to cure a perverson of the functions of the structures of the body, those functions and those structures of which he is profoundly ignorant, and not only deludes the public, but, seemingly, some physicians as well. That it should be the aim of the scientific physician to see that the conditions of life are in the air his patients breathe and the food they eat, for if all the conditions of life coexist in their normal state life and health are inevitable. He must see that the condition of primary assimilation, which consists of the changes which proximate principles undergo

previous to their conversion into the blood, is properly carried out and likewise with regard to the second assimilation, which consists of all the changes by which portions of the blood are converted into organic tissue and are again removed from the system by a retrograde metamorphosis, as it is this power which gives us our life. The highest aim of the true physician should be the preservation of the lives and the health of the people. The use of stimulants and narcotics operates in the derangement of the conditions of life, by interfering with primary and secondary assimilation. Alcohol produces irritation and irritation of a part causes an excess of action in that part that produces morbid affections. Irritation perverts nutrition and arrests the vital powers After spe king of the physiological action of alcohol in man and his offspring and the disease produced by indulgence in it, Dr. Mann passed to the subject of the treatment of the disease of inebriety. After speaking of the new method of the treatment of disease by dosiometry, in which the active principles of drugs, rather than the variable crude drugs, are used, and especially of hypodermatic dosiometry, by which we know that an exact amount of the active principle reaches the lymph spaces and circulatory channels, when from its chemical nature we can give it hypodermatically, and speaking of the need of better adaptable chemical forms of the "active principles" (alkaloids, glucosides or other definite active principles) that we may be in a position to have a new, exact and scientific system of therapeutics, Dr. Mann recommended the following as useful in the treatment of dipsomania as a good tonic and sedative, tending to antagonize degenerative changes in the brain, having a good effect on the stomach and as tending to antagonize the affects alcohol on the structures of the body:

℞ Quinine Sulph. gr. ii.
Zinc Oxid. gr. ii.
Strychnia Sulph. gr. $\frac{1}{40}$
Arsenic gr. $\frac{1}{100}$
Capsicum gr. ii.
Met. for pill No. 1
Sig. One pill three times a day.

Together with this pill, Dr. Mann uses in his private hospital for sixteen days after admission, the following, hypodermatically:

℞ Strychina nitrat. gr. i.
Aquæ Dist. ℥ss.
Met. Sig. 8 minims daily for 8 days.
4 minims daily for another 8 days.

To quiet the morning nausea of alcoholics, and before meals, wo or three drops wine of ipecac on the tongue. This tends to

flood the stomach with a healthy gastric juce. It is well to combine with this 10 drops dilute nitro muriatic acid after meals or as soon as the patient is put on full diet.

The patient is kept in bed for the first few days and kept on milk heated almost to the boiling point and Valentine's meat juice for nourishment. Hydrotherapy and electrotherapy are employed to induce sleep. A sedative is administered for a few nights. If the patient is very much excited and on the borderland of delirium tremens the following is useful for two or three nights:

R. Hyoscin Hydrobroma . gr. i.
Aquæ Dest ʒ ix.
Spt. vini rect. ʒ i.
Met. ft. hypodermatic sol.
Sig. Dose from 5 to 10 minims *pro re nata.*

The diet table should consist of milk, eggs, oysters, meats, fish, buttermilk and koumiss plus a minimum amount of cereals. Vegetables and starchy food not at all or very sparingly, the idea being to rely on diet which requires the least vital force and oxygen to digest, assimilate and appropriate it, and to have injested into the body such material as will, when brought under the influences of oxidation, yield the most force and energy. By such a plan of treatment patients are sent out with restored health, the craving for alcohol gone, the lost will-power restored, the shattered nervous system built up and with a concentration of energy, physical ability and mental activity obtainable by no other plan of treatment. The daily use of alcoholic beverages in a young person creates a new physiological want, a systematic demand, which becomes in many cases peremptory and irresistible, resulting in the disease of dipsomania, the great diagnostic mark of which is an irresistible and periodical craving for alcoholic stimulants which are taken in such cases to the point of intoxication, the will being powerless to restrain the disordered impulse of the unhappy victim. The continued use of alcohol produces insanity by getting up a subjective morbid condition of the nervous system which misleads the mind and conduct. It is needless to add that after an inebriate is cured he must avoid his old environment of the saloon and be a total abstainer. If he entertains the delusive idea that he can stay in his old environment and drink beer, ales and light wines in moderation with impunity he will have a relapse of his disease of dipsomania. Those who honestly desire to be cured are those who coöperate with the physician in his endeavor to cure them and choose a new environment. Those who are half-hearted about it return to the old environment and relapse.

PROGRESS IN MEDICINE.

SURGERY.

BY GEO. RYERSON FOWLER, M.D,

Surgeon to St. Mary's Hospital and to the Methodist Episcopal Hospital, Brooklyn.

PARTIAL RESECTION OF THE URETHRA. WITH IMMEDIATE RESTORATION.

Guyon (Gaz. hebdom de méd. et de chir., 1892, November 20). The floor of the urethra is the principal, if not the exclusive seat of disease and injuries, particularly chronic inflammation. The upper wall maintains its integrity in the majority of instances. In case of total resection a great disadvantage results from the recession of the urethral ends. Partial resection, in additon, presents some advantages in the final effect. Guyon emphasizes the fact that it is not absolutely necessary, in order to obtain a new urethra to unite urethral tissue to urethral tissue. The soft parts of the perinæum may be employed with very satisfactory results. A urethra formed in this manner, according to Guyon, is to be preferred to one with greatly retracted cut ends. He considers the dangers of urinary infiltration as so small that he no longer drains, as was the former custom, the anterior portion of the wound by means of a strip of iodoform-gauze, but closes the former at once. In cases favorable for the procedure, the soft parts are separated or excised, following which a crucial incision is made in the diseased portion of the urethra.

By this means the limits of the urethral disease may be recognized, both by the eye and finger, and the condition of the upper wall particularly, ascertained. After excision of the diseased portion, if the tension is not too great, the gap in the floor of the urethra is closed at once by a transverse line of sutures in a single layer. In suturing the perinæum, catgut is used for the deeper portion and silk-worm gut for the outer. A rubber catheter is kept in position from two to four days. Six cases are reported, in four of which complete restoration was successful upon the first trial.

INTESTINAL WOUNDS.

Henri Chaput, reported by Gerard Marchant. (Bull. et mem. de la soc. de chir. de Paris, vol. xviii.; Centralblatt für Churg., No. xliii., 1892.) Chaput's experimental studies upon intestinal wounds in the abdominal cavity in dogs numbered 182. When a merely expectant plan of treatment was followed, the mortality amounted to sixty-eight per cent. Septic peritonitis and hæmorrhage were the principal causes of death. The average number of perforations, in fire-arm wounds was six; the largest number was twenty-six and the smallest two. Methods employed heretofore for closing the wounds were unsatisfactory. The failures which followed these were due either to the fact that great difficulty is found in preventing sutures from tearing out, the impossibility of establishing two layers of sutures, or the almost utter impossibility of avoiding narrowing of the bowel in dogs. Better results were obtained by lateral implantation with an adjoining loop of intestine at the injured point. In case of a double perforation, i.e., a point of entrance and of exit, the loop was doubled in S fashion to reach both openings. In eighteen experiments of this kind all recovered.

OBSTETRICS.

BY CHARLES JEWETT, M.D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

RUPTURE OF THE UTERUS.

Fehling (Volkman's Sammlung, No. 54), in connection with the report of a case, discusses in an elaborate paper questions of ætiology, diagnosis and treatment of rupture of the uterus. With reference to the causation, the author remarks that while extreme thinning of the lower uterine segment, with violent uterine contractions, must be recognized as the fundamental cause, certain other conditions should be taken into account. Excessive activity of the abdominal muscles adds greatly to the danger. One of the most common complicating causes is intra-uterine manipulation for the correction of mal-presentation. Complete rupture from forceps or manual separation of the placenta is rare. Diseased

conditions of the muscularis play a very subordinate role in the ætiology. The scar, however, of a former laceration is liable to become the seat of a new rupture owing to local thinning of the uterine walls.

On the question of diagnosis, Fehling observes that the conditions which immediately precede rupture are not always easy of recognition. Multiparity is a very important factor. The accident is by no means confined to long labors. It may occur in the first few hours. The expert will of course be on his guard in the presence of disproportion between head and pelvis. Special stress is laid upon the importance of accurate pelvimetry and the careful examination and measurement of the fœtal head. In the presence of disproportion the frequency, strength and effect of the labor pains must be closely watched. A casual examination will not suffice. The capacity of the head for accommodation to the pelvis can sometimes be determined only by hours of patient watching. Danger signals are failure of descent in the presence of powerful contractions, excessive caput succedaneum, high position of the contraction ring, extreme tension of the round ligaments, prolonged, severe labor after rupture of the membranes, undue sensitiveness over the lower portion of the abdomen. After rupture with the extrusion of the fœtus into the peritonæum the diagnosis is easy.

The mortality, according to Hugenberger, is 95 per cent. The Baden statistics from 1883 to 1889 show 57 deaths in 62 ruptures, or 82.2 per cent.

Threatened rupture calls for the use of chloroform or morphia to moderate the pains. Forceps should be applied when the head engages or can be made to engage by careful supra-pubic pressure. In imminent danger of rupture, Fehling advocates perforation. Decapitation should be resorted to in transverse presentations which cannot be easily corrected. After complete rupture and partial extrusion of the fœtus, extraction with forceps is permissible only when it can be easily accomplished. Perforation and the use of the cranio-tractor is generally better. Turning after rupture is never justifiable. All except the simplest cases of complete laceration should be treated by abdominal section, and the lacerations sutured in the same manner as in Cæsarean section. It is unsurgical to leave a large lacerated wound to the dangers of hæmorrhage and sepsis. Extensive ruptures, especially circular tears, are best treated by supra-vaginal amputation of the uterus.

TREATMENT OF ASPHYXIA IN THE NEWBORN INFANT BY REPEATED TRACTIONS ON THE TONGUE.

P'eronne (Archives d'Obstet. et de Gyn., Feb. 25, 1893) reports three cases of asphyxia in the new born which were successfully treated by repeated tractions on the tongue. In the first case, the child at birth being apparently dead, he seized the tongue with a pair of dressing forceps and after a few pulls, which provoked hiccoughs, succeeded in establishing respiratory movements. In two subsequent cases he employed the same treatment with good results. The asphyxia in one followed the application of the forceps, and in the other case was due to twisting of the cord about the neck.

GRAVE ECLAMPSIA AT THE SIXTH MONTH OF PREGNANCY; RECOVERY; CONTINUANCE OF THE PREGNANCY.

Puech (Archives d'Obstet. et de Gyn., Oct. 25, 1892) reports a case of eclampsia occurring at the sixth month which recovered under treatment without interruption of the pregnancy. The convulsions were controlled by inhalations of chloroform, continued for three hours at a time. While the patient was in a state of coma a vein was opened in the arm, and about twelve ounces of blood drawn off. The respirations became less embarrassed, and the temperature, which was 103.6 at the moment of blood letting, had fallen to 100 an hour later. Chloral also was added to the treatment. The amount of albumen in the urine diminished, and at the time of this report intelligence had returned, the fœtal heart sounds were distinct, and a natural termination of the pregnancy seemed assured.

GYNÆCOLOGY.

BY WALTER B. CHASE, M.D.

VAGINAL HYSTERECTOMY.

Boldt (Amer. Journal Obst. and Dis. of Women and Children, Vol. xxvi., Nov. 4, 1892), after describing technique of the operation, calls attention in particular to and condemns the use of silk ligatures. He prefers catgut, and declares it holds sufficiently long to avoid rush of hæmorrhage, and that in tying catgut of large size only one twist is required in the first knot. Boldt recognizes the valuable galvano-cautery treatment by Byener, and the

high amputation favored by Boker, and the difficulty of convincing those who differ so radically from them. He quotes 474 vaginal hysterectomies from five German clinics with a mortality of 8.4 direct mortality; also that of Zwiefel of Leipzig of 77, 5.2 per cent. mortality, and that of Byford with 5 per cent. in 20 cases, and his own 44 cases with 6.81 per cent. direct mortality.

In limiting the operation from a clinical standpoint, he raises the following questions:

1. Does a movable uterus always indicate operation?

2. Is hysterectomy contra-indicated because the parametria or the folds of peritonæum posteriorly are thickened?

3. Does a fixed or adherent uterus contra-indicate total extirpation?

4. Is total extirpation of the uterus contra-indicated when the disease is apparently limited only to the cervix?

1. In answer to the first question, he says cases are usually operable if the uterus is movable and the broad and utero-rectal ligaments not infiltrated. Involution of bladder and rectum is a contra-indication.

2. Para or perimetritis, caused by traumatism or incident with puerperium, causing more or less fixation of uterus, would not render the case inoperable.

3. A fixed uterus invaded by cancer does not contra-indicate total extirpation unless the disease has gone beyond the limits for operation, as the fixation may be due to former inflammatory adhesions.

4. If it can be shown that the disease is limited only to portio vaginalis or lower part of cervix, then total extirpation is contra-indicated.

ICHTHYOL IN GYNÆCOLOGY.

Bloom (Merck's Bulletin, March, 1893) says in chronic cervical endometritis complicated with erosions, it operated almost as a specific. Ichthyol was applied by being painted over the erosions (ichthyol, one part; glycerin, two parts), and a small wool-tampon, saturated with it, being placed against the cervix and allowed to remain twenty-four hours; repeated several times.

Its action on the raw-looking surface of an eroded cervix was like squeezing water out of a wet sponge. It seemed actually to squeeze the blood out, leaving the tissue pale, and in such condition that it rapidly healed.

First.—It acts as an *anodyne* in *nearly all pelvic* troubles.

Second.—It is of *no value* for the cure of *chronic endometritis.*

Third.—It is practically *useless* in *old* chronic exudations around the uterus; but in *recent* pelvic exudations it is an *important ally.*

Fourth.—It is a good anodyne placebo in salpingitis and ovaritis, *clearing the way* for other and appropriate treatment.

Fifth.—I believe it deserves to be tried in *cancer* of the uterus.

Sixth.—In the *early stages* of specific vaginitis, *it is second to no other drug.*

ATROPIA IN UTERINE HÆMORRHAGE.

Bloom (Phila. Polyclinic, March, 1893): Freund, if I mistake not, was the first to call attention to the value of this drug in uterine hæmorrhage. This was as recently as a year and a half ago, since which time I have used it in some thirty cases, embracing almost all the pathological conditions which give rise to hæmorrhage from the uterine organs.

In not one case did the drug fail to control the hæmorrhage, and in many cases after the first dose there was a decided improvement; in no one case did the drug have to be repeated more than six times.

As was first suggested, the hypodermic use of the drug is decidedly preferable, on account of its relieving in a very few minutes the most profuse uterine hæmorrhage. It should be given in doses of $\frac{1}{100}$ gr., repeated in from three to four hours, or at longer intervals, as the symptoms may indicate.

We appreciate the fact that in the large majority of cases curetting and local treatment would have cured; but so many contingencies arise in the treatment of each case that we cannot always do what is best. It then becomes necessary to control symptoms in some other way; and for this particular symptom we have found, when measures cannot be carried out for the cure of the case, that atropia acts in an emergency and does control uterine hæmorrhage.

My plan at the dispensaries of the Polyclinic and Gynecean Hospitals, where most of the cases came under my notice, was to give $\frac{1}{100}$ gr. sulphate of atropia hypodermically, and request the patient to return the following day, at which time the dose was repeated.

In the interval I prescribe $\frac{1}{100}$ gr. triturates of the same drug to be taken from six to eight hours apart, as required to control the bleeding, and in this way I have the best results.

As to the action of atropia upon hæmorrhage, this is probably due to the fact that its physiological action upon the vaso-motor nervous system is such as to contract the blood-vessels.

OPHTHALMOLOGY.

BY RICHMOND LENNOX, M.D.,

Assistant-Surgeon, Brooklyn Eye and Ear Hospital; Visiting Ophthalmologist to Kings County Hospital.

MEDICO-ELECTRIC EYE BATH IN SCLERITIS AND EPISCLERITIS.

Norsa (Arch. of Ophthal., 1893, p. 107). The inflammations of the sclera and overlying tissue prove as a rule trying to the patience both of physician and patient on account of their obstinacy. Relapses are to be expected and only too frequently the vision is permanently impaired, especially when the deeper tissues become involved. Constitutional conditions, such as syphilis, gout and rheumatism, have to be regarded in the treatment, and locally both sedatives and irritants have been tried. Mercury and the iodine preparations are useful when the local inflammation is of specific origin, while quinine, colchicum, salicylate of lithium and the iodine or diaphoretic mineral waters prove serviceable in rheumatic or gouty cases. Norsa holds that when these remedies fail it is because they only imperfectly reach the seat of the lesion. To overcome this difficulty he advises the administration of the drug by means of a medicated bath applied to the eye, the local absorption of the medicament being hastened by the passage of an electric current through it and the inflamed tissues. The fluid used was a warm 0.5 per cent. solution of salicylate of lithium. The method of using the eye bath is as follows: An ordinary eye cup is provided with two metal tubes, one for inlet the other for outlet of the solution, each with a stopcock for cutting off the flow. The inlet is connected by a rubber tube with a reservoir placed about six feet above the patient's head, and containing the warm salicylate solution. One pole of an electric battery, preferably provided with a milliampèremeter, is connected with the metal inlet tube of the eye cup, and the other electrode placed over the cervical sympathetic. It is immaterial in which direction the current passes, and the strength of current can be regulated by the sensitiveness of the patient. The solution is allowed to circulate through the tube and cup during the application, fresh solution being thus constantly brought in contact with the inflamed tissue. The current is allowed to pass for five minutes and the treatment may be repeated daily. There is but slight reaction. Three successful cases are reported by the author.

TREATMENT OF TRACHOMA.

Knapp (Arch. of Ophthal., 1893, p. 112) gives his conclusions from a series of 86 cases of expression of the trachomatous follicles with the roller forceps devised by him. Complete thoroughness is requisite, and for this general anæsthesia is advisable as the operation is both tedious and painful. All the soft trachomatous material should be pressed out from every portion of the conjunctiva in which it is deposited, visible or invisible. Expression is only indicated when trachomatous substance can be pressed out. This is easiest in the cases of non-inflammatory follicular trachoma, and the majority of such cases can be cured by it. Relapses may occur and a few cases are made worse by expression. Simple antiphlogistic treatment is here indicated.

Sulphate of copper may be advantageously used as after-treatment.

The second class of trachoma, the inflammatory or complicated form, comprise those cases in which there is with the deposition of granules some catarrhal or purulent conjunctivitis. These cases are contagious and chronic. While not cured they may be benefitted by expression, as long as there is hyaline infiltration either granular or diffuse. In these Knapp has used scarification with expression and subsequent rubbing in of bichloride solution (1-500) with good results ("grattage"). In the third form ("sclerosing trachoma") the conjunctiva is covered with hard flattened mushroom-like excrescences which are very chronic. They are made worse by strong applications and are not benefitted by expression. Knapp has had some good results from the use of weak bichloride solution (1-5000) brushed over these excrescences several times a day. They may last years but do not lead to atrophy of the tarsus and conjunctiva. In cicatricial trachoma mechanical treatment is no longer indicated.

The results of the treatment are as follows:

1. Rapid, perfect and permanent recovery by expression alone, or expression followed by a short course of mild caustic treatment, takes place in the majority of cases, especially in the cases of pure follicular trachoma.

2. Imperfect recovery, i. e., disappearance of trachoma but with more or less resulting shrinkage of the conjunctiva, is the common issue of old, neglected cases of inflammatory trachoma.

3. Relapses occur of both simple and inflammatory trachoma, usually cured by a second or third expression.

4. The operation itself has neither destroyed nor injured an eye.

There may be temporarily increased corneal opacity in cases of pannus or ulceration.

The mechanical treatment with or without scarification and impregnation of the lid with corrosive sublimate does not cure all cases of trachoma, but it benefits and cures the great majority, and always abridges the recovery. In rare instances it converts a simple trachoma temporarily into an inflammatory trachoma, but injures no case permanently.

CHILDREN AND THEIR DISEASES.

BY FRANCIS H. STUART, A.M., M.D.

CONGENITAL SYPHILIS AS A CAUSE OF NERVOUS DISEASES IN CHILDREN.

Dr. Hadden (Brit. Med. Jour., Nov. 26, '92, p. 1164) says that though the records of morbid anatomy are scanty, there is, nevertheless, reason to believe that nearly every variety of nervous affection of acquired syphilis has its parallel among congenital examples. But the question arises whether congenital syphilis is an important agent in the causation of such nervous disorders as infantile hemiplegia, cervical opisthotonos, and the clinical conditions which are due to sclerosis of the convolutions.

Hemiplegia.—Infantile hemiplegia is conveniently classified on clinical grounds into cases (a) having an acute onset, (b) having no definite onset. Hemiplegia with acute onset is particularly common under the age of three years, and although a certain number follow the acute specific fevers, the greater proportion arise without apparent cause. Embolism at this period of life may be practically excluded. There is reason to think that the lesion is usually either thrombosis or hæmorrhage; so the inquiry resolves itself into the causation of arterial degeneration in young children. Pathological investigations on the condition of the vessels in inherited syphilis are not numerous, but sufficient evidence has accumulated to show that arterial disease is not so uncommon as was formerly supposed. He has lately found marked arterial changes in an infant, aged six weeks, in whom there was advanced cirrhosis of the liver, with unmistakable evidences of congenital syphilis.

There is considerable divergence of opinion among purely clinical observers as to the influence of congenital syphilis as a

cause of infantile hemiplegia. Clinical observations at hospitals devoted to children's diseases appear to indicate that syphilis may have a more important ætiological share than is generally allowed. Out of twenty-five cases of hemiplegia with acute onset, he found no history bearing on syphilis in nine; in three instances special inquiries were not made on this point; in five there was suspicion of syphilis, and in six the evidence was stronger; in two cases the children were certainly syphilitic.

Cerebral Sclerosis.—There is good evidence that sclerosis of the cerebral convolutions is sometimes due to inherited syphilis. In one case, in which there was slowly increasing rigidity of the arms and legs, with mental impairment, in a child aged two years, he found marked sclerosis of the convolutions. The father had been under treatment for syphilis before the child was born.

Disseminated Sclerosis.—Evidence that this disease in the child may be syphilitic is furnished by this disease occurring in a boy aged eight years, whose brother had a typical syphilide. In two other cases the author had reason to suspect syphilis.

Idiocy.—Some non-congenital cases of idiocy are indisputably of syphilitic origin.

Convulsions.—It is important to bear in mind that convulsions may indicate actual structural changes in the brain. Infantile eclampsia may be almost the sole indication of syphilis affecting the higher nervous centres, and it is a clinical fact that seizures of this kind will sometimes yield to mercury, when bromide of potassium and all other remedies have failed.

Cerebral Opisthotonos.—In this condition the head is strongly retracted, and attempts to put it forward give rise to pain. The fontanelle is often bulged, and the sutures may widen out. Hydrocephalus, indeed, often supervenes. Paralysis of the cranial nerve and optic neuritis are not generally present. The active symptoms, with partial or even complete remissions, may last for months. Sometimes death ensues at a comparatively early period; sometimes the patient lives to be hydrocephalic, sometimes recovery takes place. This condition is due to simple (non-tuberculous) meningitis, chiefly at the base, more especially affecting the membranes between the medulla and cerebellum. Sometimes there is spinal meningitis, particularly of the posterior surface. Cervical opisthotonos is sometimes associated with clear evidences of congenital syphilis and a causal connection may reasonably be assumed, at any rate in some cases. The frequent coincidence of the two states can scarcely be fortuitous. It is curious, however, that mercury will sometimes be of little use in such cases.

TONSILLOTOMY AS A PREVENTIVE OF DIPHTHERIA.

Lancry (Jour. des Sciences Med. de Lille, Aug. 26, '92) attributes the predisposition of the children in some families to contract diphtheria and croup to the presence of hypertrophy of the tonsils. He has frequently had occasion to observe the coincidence of the enlarged tonsils in parents and children with liability to infectious "sore throat" and diphtheria. In a very large proportion of his cases of tonsillotomy the enlargement was hereditary, and the brothers and sisters of the children operated on were often the subjects of croup. Moreover, the sporadic cases of diphtheria which have come under his notice have almost always been in children whose tonsils were hypertrophied. He, therefore, believes that removal of the tonsils is indicated in children in whom these bodies are enlarged, if any other child in the family has suffered from diphtheria. Some weeks should, however, be allowed to elapse after exposure to infection before the operation is done, to allow time for the destruction of any germs that may have found their way into the child's throat. (Epit., Brit. Med. Journ., Sept. 24, '92).

CORRESPONDENCE.

LIBERTY, SULLIVAN CO., AS A HEALTH RESORT.

To the Editors of the Brooklyn Medical Journal:

On June 10th, a party of Brooklyn and New York physicians, visited Liberty, N. Y., as guests of the N. Y., O. and W. Railway Company.

A special vestibuled train of new coaches, a new powerful and speedy locomotive, a banquet at the Hotel Wawonda, a drive to the top of Walnut mountain, and a brass band, were a few of the pleasant features of the trip. In the course of a casual conversation with one of Brooklyn's representatives, Mr. G. E. Childs, General Manager of the railway company, stated that the medical profession of this city had educated the profession generally, as well as the laity, to appreciate the value of Sullivan County as a health resort. One of the first to call attention to this particular region was Dr. Evans ("Handbook of Historical and Geographical Phthisiology"), who basing his opinion largely on Dr. Billings' statement in the vital statistics report of the Tenth United States Census, that: "The two chief health regions of the United States are the eastern slope of the Cordilleras, and the western slope of

the Appalachian systems," pointed out the fact, that Liberty, Sullivan County, N. Y., is the nearest and most accessible point, to New York City, on the western slope of the Appalachian system.

The superiority of Sullivan County in point of salubrity to the Adirondack and Catskill regions, as shown by Dr. Billings' statistics, is due, no doubt, to the fact that, in the former region, much of the timber has been cut down, the character of the soil is unfavorable to vegetation, and the undulating surface of the country is favorable to good drainage. The chief, and perhaps the only objectionable feature of the Adirondack region, is the existence of extensive forests, which conduce to a condition, *dampness of the soil*, which has been shown, by Bowditch, Buchanan, Pepper, and others, to be very unfavorable to those who are predisposed to phthisis.

Greene County, the region of the Catskill mountains, is not so good a locality for invalids as has hitherto been supposed. We must, however, except the "Pine Hill" section, as well as the country west of that place, for here we are also on the western slope of the Appalachian system, but at a point more distant from New York City.

Dr. Baker, secretary of the Michigan State Board of Health, has graphically pictured how rivers and lakes of damp mephitic air exist in all narrow, deep valleys, and those which have no outlet, topographical conditions which may be found in Greene County without great effort, as in Switzerland, where cretinism is quite common.

F. D. Bailey.

333 Hancock St.,
Brooklyn, June 15, 1893.

NEW BOOKS AND BOOK NOTICES.

All books received by the Journal *are deposited permanently in the Library of the Medical Society of the County of Kings.*

Zymosis and Pathogenesis: A Bacteriological Sketch. By Jas. I. Fellows. New York, Paris and London, 1891 and 1892.

This sketch of about 160 pages gives a résumé of bacteriological investigations, including a somewhat detailed account of the researches of Pasteur, Lister and Koch; also chapters on putrefaction, fementation, ptomaines, immunity, phagocytes, antiseptics and disinfectants.

The author goes farther than the present status of the science warrants in one of his concluding paragraphs. He says: "In this very brief sketch of some of the more important facts bearing on the application of bacteriological science to the causation and treatment of disease, we necessarily have to omit a reference to many most interesting and valuable discoveries, made from time to time, of organisms which have a special significance in the ætiology of acute infective diseases. We have examples of these infective organisms in the micrococcus of yellow fever, Cohn's micrococcus of small-pox, the micrococcus of scarlatina, etc." We think we are not mistaken in the statement that these three diseases still want their ætiological explanation. Their germs, although believed to exist, have not yet been discovered.

SYPHILIS AND THE NERVOUS SYSTEM. By W. R. Gowers, M.D. Philadelphia: Blakiston, 1892. Pp. 127. Price, $1.

This is a revision of three lectures treating respectively of (1) The Ultimate Pathology of Syphilis, (2) The Origin of Functional Nervous Disorders attributed to Syphilis on Imperfect Evidence, (3) The Essential Principles underlying the Prognosis of Syphilitic Diseases of the Nervous System, and their Effect upon Special Prognosis of the Chief Lesions.

Whilst the author disclaims theoretical discussion and proposes to deal closely with facts, he nevertheless treats largely of the principles of reasoning admissible in the peculiar field of medical work, and in a most instructive way.

Hyperplasia is the characteristic of most specific processes Still, beside toxic or inflammatory processes as a direct result, he accepts the more recent evidence of degenerative changes. Under these latter, besides tabes, general paralysis and ophthalmoplegia, he includes "chronic muscular atrophy, due to degeneration of the motor cells, with or without the signs of lateral sclerosis," as an occasional consequence. and some other less certain forms. "Nerve degenerations, such as succeed acquired syphilis in the adult, are met with also in young persons who are the subjects of the inherited disease," though they are rare.

A gumma even if cured, may be expected to leave a cicatrix. If this be encranial and limited to bone and dura no after effect may remain, but if nerve tissue be involved there must be irreparable injury. Only the specific process is affected directly by our treatment, and not the very important mechanical conditions upon which the symptoms really depend. Simple lateral pressure may be relieved with recovery of function, but where the process is encircling and constricting the outcome must be imperfect, and may even leave a point of irritation. This warns us, particularly where the trouble has lasted for any length of time to be somewhat guarded in the prognosis of complete recovery.

He accepts the conclusion that syphilis is an incurable disease, at least there is no proof that it is ever cured. In fact he throws great doubts on the prevention of the late results by any early treatment. Still he thinks better results might possibly follow a couple of courses of iodide a year for five years after the last symptoms.

The book is very pleasantly written and is here nicely issued by the publishers.

WILLIAM BROWNING.

MEDICAL MICROSCOPY. A Guide to the Use of the Microscope in Medical Practice. By Frank J. Wethered, M D., etc. With illustrations. Philadelphia: P. Blakiston, Son & Co., 1892. Pp. 406.

The knowledge requisite for physicians to possess at the present day, in order to practice their profession, is fast becoming so extensive that it is only by the aid of such books as this that it can be accomplished. The author has succeeded in a surprising manner in condensing into a very small compass a vast amount of practical material which is liable to be needed by every practicing physician at a moment's notice. It is not to be supposed that here will be found a complete dissertation on all the bacteria, but if a concise statement is wanted of the most approved methods of detecting the presence of the tubercle bacillus, a reference to the volume before us will be all that is needed. Besides a description of the microscope and microscopic methods, the author has given the methods for the examination of tumors, urinary deposits, fæces, sputum, vomit, blood, food and water. The examination of discharges and contents of cavities, discharges from the genital organs, and of cutaneous parasites is also treated in a concise manner.

TUBERCULOSIS OF BONES AND JOINTS. By N. Senn, M.D., Ph. D., Professor of Practice of Surgery in Rush Medical College. Illustrated with 107 Engravings (seven of them colored). 520 pages. Extra Cloth, $4.00 net Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert Street.

In no one particular, perhaps, has greater advance been made in the treatment of diseases of the bones and joints than in the recognition of the fact that tuberculosis plays by far the most important part in their production. This is not as generally accepted, probably, as it should be or as it undoubtedly will be, when the knowledge of all the facts is more widespread than it is at present, and such books as the one before us will be important factors in bringing about the change. Of course it goes without saying that if tuberculosis bears such an important relation to the diseases of the bones and joints, a true appreciation of this fact is the secret of success in their treatment. Readers will find in this volume the views of many who believe with the author that tuberculosis is at the foundation of most bone diseases. The illustrations are numerous and well adapted to make the author's methods more easily understood. Dr. Senn has made a most important contribution to medical literature, and the thanks of the profession are due him for directing their attention so forcibly to this subject.

INTERNATIONAL CLINICS. Vol. IV., Second Series, 1893. Philadelphia: J. B. Lippincott Co., 1893.

This volume contains fifty articles, all full of interest and instruction. A sketch of the late Professor Henry I. Bowditch, with a portrait, serves as an introduction. Practical medicine is represented by articles on the relation between renal disease and disease of the circulatory system, by James Tyson; cirrhosis of liver and kidneys, etc., by Alfred L. Loomis; atelectasis pulmonum, by J. S. Bristowe; angina pectoris, by T. J. Mays; epilepsy treated by antipyrin, by William Pepper. Nervous diseases are considered by L. C.

Gray, who writes on diseases of the spinal cord; by G. M. Hammond, J. J. Putnam and others. The portion of the volume devoted to surgery has in it many representative surgeons of the United States, among whom may be mentioned W. W. Keen, R. Abbe, A. R. Gerster, and others equally well known to the profession. E. P. Davis treats of post-partum hæmorrhage; A. J. C. Skene of prolapsus of the ovaries, abdominal section, etc.; M. D. Mann, of after treatment of laparotomies; H. C. Coe, of contra-indications to minor gynæcological operations, and P. E. Mundé, of the care of pessaries, and thus the departments of obstetrics and diseases of women is well represented. Nose, eye and skin diseases are considered by B. Robinson, G. M. Lefferts, L. A. Duhring and others. As a whole this is one of the best volumes of the International Clinics that has been published.

A Manual of Medical Jurisprudence. By Alfred S. Taylor, M.D. Revised and edited by Thomas Stevenson, M.D. Eleventh American, edited with citations and additions from the twelfth English edition by Clark Bell, Esq. Philadelphia: Lea Brothers and Co., 1892. Pp. 790.

Taylor's Medical Jurisprudence is too well known to need any encomium. The mere fact that it has passed through twelve editions tells the story of its popularity and of its adaptation to the wants of both the legal and medical professions. This edition is an entire revision of all prior American and London editions, and includes the numerous and valuable additions which Dr. Stevenson has contributed to the masterly volume of Taylor.

No one could be found in this country to edit such a work who could better command the respect and confidence of its readers than Clark Bell, whose relations with medico-legal matters have been most intimate for many years. In the volume before us he has carefully cited nearly 700 cases and authorities to aid counsel in preparing briefs, and to extend the sources of information for medico-legal jurists. This greatly enhances the value of the American edition, which will undoubtedly make it the standard of reference for the future as it has been for the past.

A Manual of the Operations of Surgery for the use of Senior Students, House Surgeons, and Junior Practitioners. Illustrated. By Joseph Bell, M.D., etc. Seventh edition, revised and enlarged. Edinburgh: Oliver and Boyd, 1892. Tweeddale Court Pp. 360. Price 6 shillings.

The first edition of this work appeared in the year 1866, and the volume before us is the seventh. It was originally prepared for the author's classes in operative surgery in the Edinburgh school, and was intended as a guide for their studies on the dead body. It purposely avoids any of the historical details which are entirely appropriate in systems of surgery, but which would, manifestly, be out of place in a book which is designed as a practical manual, not only for the student, but also for the junior practitioner, who desires the steps of an operation and not the knowledge when to perform it. For this and for the pathology he would naturally consult more pretentious works. The author has certainly succeeded most admirably in the task which he set out for himself, and has given the profession a most practical book in which there does not appear to be one word too much.

MISCELLANEOUS.

MILITARY HISTORY OF GEORGE M. STERNBERG, M.D.,

SURGEON-GENERAL OF THE UNITED STATES ARMY.

George M. Sternberg was born in New York, June 8, 1838. Retiring year, 1902; appointed from New York from civil life.

Actual rank: Asst. Surg., May 28, '61; accepted May 31, '61; Capt. and Asst. Surg, May 28, '66; Major and Surgeon, Dec. 1, '75; Lieut. Colonel and Deputy Surgeon General, Jan. 12, '91.

Service: With Gen. Sykes' command, Army of the Potomac, to Aug., '62; hospital duty Portsmouth Grove, R. I., to Nov. '62; with Gen. Banks' expedition, and assistant to the Medical Director, Department of the Gulf, to Jan., '64; in office of Medical Director, Columbus, Ohio and in charge of U. S. General Hospital at Cleveland, Ohio, to July, '65; with the 13th U. S. Inf. Jefferson Barracks, Mo., to April, 66; Post Surgeon at Fort Harker, Kan., to Oct., '67 (cholera epidemic); at Fort Riley, Kan., and in the field from April, '68 to '70 (Indian campaign); Fort Columbus, N. Y. Harbor, to May, '71 (yellow fever epidemic); Fort Hamilton, N. Y. Harbor, to June, '71; Fort Warren, Boston Harbor, Mass., to Aug., '72; ordered to Dept. of the Gulf, July 22, '72; Acting Medical Director, New Orleans, La., to Oct., '72; Post Surgeon, Fort Barrancas, Fla., to Aug., '75 (epidemics of yellow fever in '73 and '75); on sick leave to May, '76; ordered to Dept. of the Columbia, May 11, '76; Attending Surgeon Department Headquarters, to Sept., '76; Post Surgeon Fort Walla Walla, W. T., to May, '79; in the field. Nez Percés Expedition, '77; on special duty with National Board of Health from July, '79, to Aug., 81; (Member of Havana Yellow Fever Commission), '79; ordered to Department of California, Aug. 10, '81; Post Surgeon Fort Mason, Cal., to May, '84; Attending Surgeon and Examiner of Recruits at Baltimore, Md., to October, 1890; in charge Medical Purveying Depot, San Francisco, Cal., to Feb., '92; Attending Surgeon, New York City, to date.

Brevet commissions and "honorable mention" in official communications.

Captain and Major U. S. A., "for faithful and meritorious services during the war."

WAR OF THE REBELLION.

OFFICIAL RECORDS.

Series I., Vol. XI., Part II.—Report of Brigadier-General Sykes, U. S. A., commanding Second Division, of the Battle of Gaines Mill, engagement at Turkey Bridge, and Battle of Malvern Hill.

"Dr. Sternberg added largely to the reputation already acquired on the disastrous field of Bull Run." (Op. Cit., p. 352.)

Copy of endorsement on paper now on file in the War Department:

"SEVENTH END'T. HEADQUARTERS DIVISION OF THE ATLANTIC.
"GOVERNOR'S ISLAND, July 21, 1890.

"Respectfully returned to the Adjutant-General U. S. Army.

"In view of the within record, to which my attention was not before called, I recommend that Major George M. Sternberg, Surgeon U. S. Army, receive the brevet of Lieutenant-Colonel for heroic conduct in the performance of duty at the battle of the Clearwater, Idaho, July 11 and 12, 1877, against the hostile Nez Percés Indians.

"(Signed.) O. O. HOWARD,
"Major-General Commanding."

Extract from letter of the Surgeon-General U. S. Army, to the Honorable, the Secretary of War:

"WAR DEPARTMENT, SURGEON GENERAL'S OFFICE,
"WASHINGTON, D. C., November 12, 1879.

. . . "Assistant Surgeon Sternberg has since his appointment (May 28, 1861) served in the field during the war . . . from May 31, 1868, to December 9, 1868, Chief Medical Officer of the expedition serving south of the Arkansas river . . . from September 2, 1872, to the present date, as Post Surgeon, Fort Barrancas, Florida, and has rendered there valuable and efficient services during two epidemics of yellow fever. . . .

"Very respectfully, your obedient servant,
"JAMES K. BARNES,
"Surgeon-General U. S. Army."

SPECIAL DETAILS.

Member and Secretary of the Havana Yellow Fever Commission of the National Board of Health (1879).

Delegate from the United States, under special instructions from the Honorable, the Secretary of State, to the International Sanitary Conference of Rome (1885).

Detailed, by direction of the President, in pursuance of the authority contained in the provisions of the act of Congress,

approved March 3, 1887, to make investigations in Brazil, Mexico, and Cuba, relating to the ætiology and prevention of yellow fever (1887-89).

"Consulting Bacteriologist" to the Health Officer of the Port of New York (1892), by authority of the War Department, and in compliance with special request of the Health Officer of the Port of New York and the "Advisory Committee" of the New York Chamber of Commerce.

MEMBERSHIP IN MEDICAL AND SCIENTIFIC SOCIETIES.

Member and Ex-President of the American Public Health Association; Member of the American Association of Physicians; of the American Medical Association; of the American Physiological Society; of the American Microscopical Society (Vice-President); Fellow of the American Association for Advancement of Science; Fellow of the Royal Microscopical Society of London; late Fellow by Courtesy in Johns Hopkins University (1885-90); Honorary Member of the Epidemiological Society of London; Honorary Member of the Royal Academy of Medicine of Rome; Honorary Member of the Academy of Medicine of Rio de Janeiro; Honorary Member of the American Academy of Medicine; Associate Member of the French Society of Hygiene, etc.

PRINCIPAL PUBLISHED WORKS AND SCIENTIFIC RESEARCHES.

"Bacteria." 498 pages, 8°, including 152 pages from the work of Dr. Antoine Magnin, translated from the French in 1880; illustrated by photomicrographs and cuts. (Wm. Wood & Co., New York, 1884.)

"Photographs and How to Make Them." 204 pages, 8°; illustrated by numerous photomicrographs. (Jas. R. Osgood & Co., 1884.)

"Malaria and Malarial Diseases." 329 pages, 8°. (Wm. Wood & Co., New York, 1884.)

"Report upon the Prevention of Yellow Fever by Inoculation." 100 pages, 8°; submitted in March, 1888. (Government Printing Office, Washington, D. C.)

"Report on the Ætiology and Prevention of Yellow Fever." 271 pages, 8°; illustrated by photomicrographs and cuts. (Government Printing Office, Washington, 1890.)

"A Manual of Bacteriology." 898 pages. Royal octavo; illustrated by numerous photomicrographs and cuts. (Wm. Wood & Co., New York, 1892.)

"Examination of the Blood in Yellow Fever." Experiments upon animals, etc. In Preliminary Report of Havana Yellow Fever Commission, Washington, 1879.

"Experiments to Test the Value of Certain Gaseous and Volatile Disinfectants." National Board Health Bulletin, Washington, 1879.

"Experiments with Disinfectants." Johns Hopkins Univ. stud. biol. lab., Baltimore, 1882.

"A Fatal Form of Septicæmia in the Rabbit," etc. Johns Hopkins University stud. biol. lab., Baltimore, 1882.

"Experimental Investigations Relating to the Ætiology of the Malarial Fevers." Special report to the National Board of Health in Bull. Nat. Bd. of Health, Washington, 1881–2.

"Germicide Value of Therapeutic Agents." American Journal of the Medical Sciences 1883.

"The Ætiology of Croupous Pneumonia." The Medical Record, New York, 1889.

"The Bacillus of Typhoid Fever." The Medical News, Philadelphia, 1887.

"The Thermal Death-Point of Pathogenic Organisms. American Journal Medical Science, Philadelphia, 1887.

"Explanation of Acquired Immunity in Infectious Diseases." American Journal Medical Science, Philadelphia, 1881.

"Address in Medicine." Delivered at Yale University, June 23, 1892.

"Disinfection and Disinfectants." Report of Chairman of the Committee on Disinfectants of the American Public Health Association, 1888.

"Article on Disinfection," in Hare's "System of Practical Therapeutics," Vol. I., Philadelphia, 1892.

"Articles on Yellow Fever, Relapsing Fever, Typho-Malarial Fever, Germicides, Antiseptics" in Wood's "Handbook of Medicine." New York, 1885–89.

"Practical Results of Bacteriological Researches." American Journal of the Medical Sciences, Philadelphia, 1892.

"The Biological Characters of the Cholera Spirillum," etc. The Medical Record, New York, 1893.

"Disinfection at Quarantine Stations, especially in Cholera." The New York Medical Journal, 1893.

"Report of Chairman of Committee on 'Protective Inoculations in Infectious Diseases.'" Boston Medical and Surgical Journal, 1893.

ECCLES VERSUS RADAM.

CHARGE OF HON. CHARLES F. BROWN, JUSTICE OF SUPREME COURT.

Gentlemen of the Jury :

The evidence in this case upon the cross-examination of the parties has covered a field that is a little beyond the issues in this case, and in the consideration of the suit it is necessary for you to come back and to understand its character, and just what the issues are that are involved here.

We are not concerned in this case with the question as to the cause of disease, whether it be attributed, as the defendant claims, to microbes or to other cause, and we are concerned only in an incidental way with the defendant's character and the virtues of his medicine.

Now, this is an action for libel, to recover damages for injury to the plaintiff's character. He is a physician and chemist here in this city, and he claims that he has been libeled by the defendant, by this publication, which was written by the defendant and published in the St. Paul Herald. Now, it is libellous to say or write of a physician, concerning a physician or professional man, any words which import general ignorance in his profession, or a lack of professional skill. And it is not necessary, in order to constitute libel, that the plaintiff should be so charged in direct or positive terms; but if the defendant uses words which interpreted in their ordinary meaning, as common people interpret them, have a tendency to charge general professional ignorance, or general want of professional skill, that is libellous and actionable. And when I speak of its being actionable, I mean that it gives the right to the person of whom they are uttered to sue the person who writes or publishes them and recover substantial damages; and by substantial damages I mean an amount in excess of a nominal sum, of a dollar or six cents.

It is not necessary that the plaintiff should show that he has suffered actual pecuniary loss, but where words that are libellous or defamatory are uttered without legal excuse the amount of damages rests in the sound discretion of the jury, because in every case of that kind there is one element that the jury may always use as the basis of damages, and that is the wounding of the feelings of an upright man by the inexcusable publication of defamatory words concerning him. That is an element of damage, and if the jury

find that there was malice, they may go beyond what they consider the actual suffering of the plaintiff and give damages by way of punishment.

As I have said, the plaintiff is a physician and chemist practicing his profession in this city. The defendant wrote of him and published in the St. Paul Herald the article read in your hearing, and it says of the plaintiff that he was a charlatan and a quack. Now it is for you to interpret those words in their ordinary and usual meaning, as ordinarily understood among people generally in the common acceptation of the terms, and if you find that to say of a man that he is a quack doctor or charlatan implies he is a pretender and lacking in professional skill, that is libellous and the plaintiff has made out a prima facie case and is entitled to a verdict.

An essential element in an action for libel is malice; but it is not essential that the plaintiff should show what we understand in ordinary life as ill will, or hate or hostility, but malice in law is simply a legal inference which the law draws from the publication of libellous or defamatory words. So much for the prima facie case of the plaintiff. If you construe those words, quack and charlatan, as meaning that he is a pretender and lacking in professional skill, he is entitled to a verdict at your hands.

Now, there is a defense to this action. The defendant says in the first place that while he admits that he wrote this article and used these terms, still he did not use them with reference to the plaintiff as a physician, but intended them to apply to him only as a chemist, and then interpreting the article in that way, it is true. That, in substance, is his first defense; that is, he says, "I do not assault his character as a physician, but I do attack his character as a chemist, and I am right in so doing." And you will understand how he comes to do that when you consider the character of this discussion and the transaction out of which this controversy arises. It came from the chemical analysis made by the plaintiff of this defendant's medicine, which was published in The Druggists' Gazette, and the comments which the plaintiff made upon it. In determining whether that was a defense or not, you will read this article and see whether there is in its wording any limitation upon the use of these terms concerning the plaintiff as a chemist and physician; whether when he said of the plaintiff that he was a charlatan and a quack, a person who read this article in the St. Paul Herald understood him to assault the plaintiff only in his character as a chemist. If you find that they were just and applicable to him as a physician, as a chemist the defense would fail.

But if you find that in the article there is any limitation, you would have to go on and say whether they were true or not interpreted in the light which the defendant puts upon them.

They have not assailed the plaintiff's character generally. He has been a witness here, and told you where he studied and graduated, what his experience has been and the various positions he occupies in the medical world and in the professional world with which he is connected, and it is for you to say whether he was a chemist having the ordinary and average skill which belongs to men of that class. If he was, then the defense fails, even interpreting the article as the defendant puts it.

One other step, and perhaps the most important in the whole suit. I have said to you that malice is an essential element in an action for libel, and ordinarily it is a legal inference from the inexcusable publication of defamatory matter. But there are occasions where a person may use words and language which unexplained and ordinarily would be libellous, which under those circumstances and on such an occasion are privileged. The most familiar case which could be cited of that nature would be where a person should apply to you in reference to a servant who had been in your employ; where a store-keeper might come to you and say, "So-and-so has applied to me for employment as a clerk. He says that he has been in your employ," and you should say "he is a dishonest man, I would not employ him." Ordinarily that would be a slanderous charge to make of him, but from the fact that you were speaking on a subject in which you and the person whom you addressed were both interested, it would be regarded in law as privileged. So when a man publishes an article in relation to his own business he may use language which at other times and under other circumstances would be libellous, but which would be excusable under these particular circumstances. It does not necessarily follow, I only say that it might be so, it is for the jury to say whether it was so in this case.

The Defendant was the originator, the proprietor and manufactor of this patent medicine. The Plaintiff had made an analysis of it which he had published in the Druggists' Gazette, which had been circulated to a considerable extent throughout the country. Some reference had been made to it in the St. Paul Herald, and the Defendant says that he then deemed it necessary to come to the defense of his property and his own reputation and wrote the article in which he used these terms. It is for you to say whether he wrote that article in entire good faith, without corrupt motive, to maintain his business and defend his reputation, or whether he

exceeded the bounds and limits of an honest discussion and applied opprobrious epithets to the Plaintiff simply for the purpose of abusing him. If he did there is no excuse. It is what the law denominates a privileged occasion, and the effect of that is to shift the burden of proof to the Plaintiff to show that there was actual ill-will and malice in the publication. If, however, the Defendant was excited and provoked by charges made against his medicine, and to maintain the truth he was representing to the world that it was a general cure for all diseases, and without ill-will used those terms, that he was a charlatan and a quack, you might find that he was excusable, that the occasion was one where he was entitled to the privilege. If he had said for the sake of illustration in more courteous language, this charge that has been made here by this Plaintiff is one not to be considered because he lacks skill in his profession as a chemist, he cannot make an analysis, he is not capable of doing what he claims to have done, you might think that he did not exceed the bounds of fair discussion; but he here used an epithet charlatan and quack, and it is for you to say whether there was ill-will on his part toward the Plaintiff. It makes no difference whether he was acquainted with him or not. If you should find that the Defendant was putting upon the market a quack medicine that would not do what he said it would, and was ready to assault anybody who attacked his medicine you might, and probably would, find that the occasion did not protect him. If you should find also that after this paper was published he repeated his charges, you might find from that fact ill-will on his part and not an honest effort to maintain his position.

Unless you find that those defenses are established you will find a verdict for the Plaintiff in such sum as you think will fairly compensate him for the damage he has sustained.

Mr. Payne.—I ask your Honor to charge the jury that if they are satisfied of the Defendant's malice in the publication they are entitled to grant punitive damages which shall be a warning to other people.

The Court.—I said that to them.

Col. Ingersoll.—I ask your honor to call the jury's attention to language used by Dr. Eccles in his article, the language used by him.

The Court.—Yes, but you have not pleaded any mitigating circumstances here so that one libel cannot be an excuse for another. They will consider that of course in determining the character and motive of this publication. It is the intent with which he uses

the language which constitutes libel and not the mere use of words.

Col. INGERSOLL.—I ask your Honor to charge the jury that the mere use of harsh terms does not defeat the privilege.

THE COURT.—I so charge, unless they are uttered with corrupt intent.

Mr. PAYNE.—I desire to hand the article to the jury.

THE COURT.—Yes.

Col. INGERSOLL.—Let them take all the articles.

Jury retire.

Verdict for plaintiff for $6,000.

Five per cent. allowance. Forty days to make a case and forty days' stay after notice of entry of judgment.

Motion for new trial on all the grounds stated in section 999 of the Code made and denied.

Exception.

BROOKLYN VITAL STATISTICS FOR NOVEMBER AND DECEMBER 1892, AND JANUARY, FEBRUARY, MARCH, APRIL AND MAY, 1893.

By J. S. YOUNG, M.D., Dep. Commissioner of Health.

Population estimated January 1, 1893, 978,394; Births reported, November. 14,000; December, 1,519; January, 1,767; February, 1,323; March, 1,781. April, 1,405; May, 1,364; Deaths reported, November, 1,345; December, 1,642; January, 1,662; February, 1,527; March, 1,980; April, 1,990; May, 1,796.

CAUSES OF DEATH.

	Nov.	Dec.	Jan.	Feb.	March.	April.	May.
Croup	42	45	31	26	28	19	14
Scarlet fever	16	34	51	44	59	32	36
Whooping cough	17	31	27	36	34	29	32
Measles	2	8	7	8	8	12	23
Small pox	—	1	1	0	2	1	—
Diphtheria	26	73	65	56	39	55	50
Typhoid fever	17	10	9	11	14	9	7
Pneumonia	207	238	315	244	402	422	258
Diarrhœal diseases	18	6	13	12	11	13	25
Cerebro-Spinal Meningitis	7	2	4	0	16	19	21

REPORTED CASES.

	Nov.	Dec.	Jan.	Feb.	March.	April.	May.
Scarlet fever	157	317	487	438	475	397	340
Measles	154	171	147	140	133	349	524
Typhoid fever	28	40	45	12	13	7	14
Diphtheria	178	192	187	184	140	159	144
Small pox	51	38	49	0	41	41	25

DEATH RATE.

	Nov.	Dec.	Jan.	Feb.	March.	April.	May.
Brooklyn	16.92	19.88	21.67	22.12	21.34	24.48	24.42
New York	19.30	20.31	22.19	23.42	24.07	30.68	28 16
Philadelphia	19.33	20.11	23.93	22.76	22.01	21.95	22 55
London	17.82	19.08	25.68	22.52	19.50	20.06	20.13
Paris	19.95	20.59	25.92	27.46	21.88	25.96	29.17
Vienna	18.52	18.98	22.65	27.98	22.30	24.70	25.38



BERNARD DE JUSSIEU.

The Jussieus were a distinguished French family, which came into prominent notice towards the close of the Sixteenth Century, and for a century and a half was illustrious for the botanists it produced.

The subject of the portrait we produce, together with his brothers, Antoine and Joseph, equally celebrated both as physicians and botanists, were born at Lyons in France; Bernard, in 1699.

He was specially eminent for his botanical skill and researches, and was one of the first botanists who aimed at a natural system of arrangement. He was a member of various learned academies in Europe; curator of the plants of the royal garden at Paris, and was invited by the king himself to superintend the arrangement of a botanical garden at Trianon. He was highly esteemed by his royal master, and enjoyed what was no less honorable, the friendship and confidence of Linnæus. He had numerous pupils, by whom he was much beloved, and died in the possession of universal esteem in 1777, in the seventy-ninth year of his age.

His chief botanical publication was an edition of Tournefort on the plants which grow near Paris, 2 vols., 12mo.

Although a first-rate botanist, he was deterred by a sense of modesty from giving his ideas to the world.

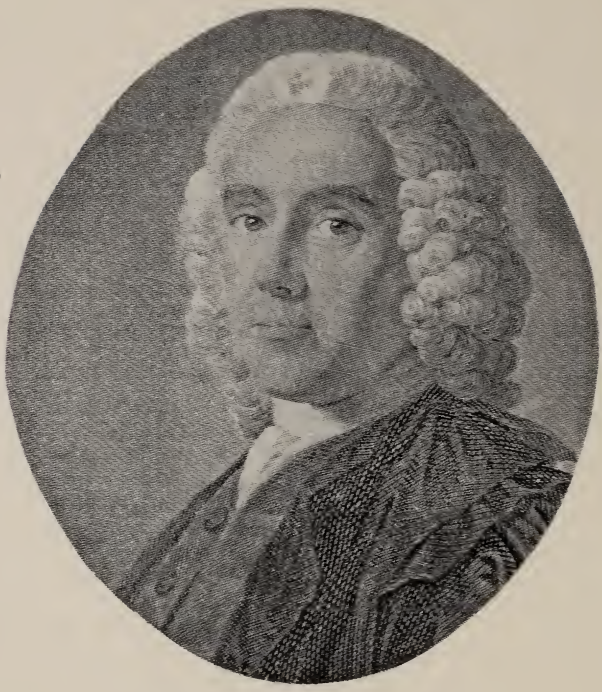
His nephew, A. L. Jussieu, took his illustrious uncle's arrangement of the garden at Trianon as the basis of his own important work on the fundamental principles of the natural arrangement of plants, and the profound and sagacious manner in which he has applied these principles to the institution of the natural families; and the Jussieuan method has formed the foundation on which the modern classifications were afterwards built.

The Jussiæa of Linnæus was so named by that eminent botanist in honor of these men.

The royal garden of France, which we have seen was arranged by Tournefort, and curated by Jussieu, is that now so universally visited and admired as the Jardin des Plantes, in Paris.

It was to another of this eminent family, Joseph, a younger brother of Bernard, that we are indebted or our knowledge of the tree which produces our Peruvian bark; which, though the bark and its great value had been known in Europe for a century, was only known by the packages of it sent over by the Jesuits, and others who were making a great profit out of their concealment of the tree which produced it.

Jussieu's story of his failure to bring the plants to Europe with him is a pathetic one He obtained some of the young plants, after three years' residence in the forests of Peru, studying the trees with the intention of taking them down the Amazon to Cayenne, and thence transporting them to the Jardin des Plantes, at Paris; but a wave washed over his little vessel near Para, at the mouth of the great river, and carried off the box in which he had preserved those plants for more than eight months. "Thus," he says, "I lost them after the care I had taken during a voyage more than twelve hundred leagues."



ALEXANDER MONRO, *PRIMUS.*

The lives of the Alexander Monros, *Primus*, *Secundus*, *Tertius*, are the history of the great Edinburgh Anatomical School for more than one and a quarter centuries—from 1720 to 1846—during which time the chair of anatomy, carrying with it at first those of physiology and surgery, and latterly, that of surgery alone, was held by this family, father, son and grandson succeeding each other.

The first charter for a medical school in Edinburgh was given as long as 1505, more than a century before Harvey discovered the circulation of the blood, and before Vesalius, the father of modern anatomy, was born. We know little of its early history, except that applicants for admission to the incorporation of Surgeons were to be examined in anatomy, and they were to have a body for dissection once a year.

No history of the work of this incorporation has come to the knowledge of the writer before 1694, and from that date till 1720, when the council elected Alexander Monro "Professor of Anatomy in this city and College," at a yearly salary of £15, its life was a struggle for existence.

Young Monro had himself been a pupil at the school during this early period, for we find him describing among his early opportunities in Edinburgh, having attended "the dissection of a human body which was shown once in two or three years."

ALEXANDER MONRO, *Primus*, was born in 1697, the son of John Monro, an army surgeon of good Scotch family and education, who had settled in Edinburgh, in 1700, and become identified with the incorporation of Surgeons, and their enterprise of establishing a medical school in Edinburgh. He gave his son every advantage which Edinburgh and her University could give; so that with his father's high social standing and professional ability, and the personal care he was able to give to his medical education, young Monro received as good an intellectual equipment as the Scotch capital was at that time able to provide. But in accordance with his father's plan to educate him for a teacher, he was sent to London, and thence to Paris and Leyden, between which cities he spent two years in the study of anatomy and other branches of medicine under such masters, as the enthusiastic and eloquent Cheselden, M. Bouquet and the great Boerhaave, of whom he was a favorite and admiring pupil.

The first five years of Monro's professorship in the Anatomical School the lectures were held in Surgeons' Hall, the school being part of the corporation, but in 1835, the classes were removed to University, in consequence of a riot and threat of burning the building, on account of the supposed violation of graves by the too enthusiastic anatomists, and the school became the medical department of the University, and Alexander Monro, its chief ornament.

Monro's course of lectures extended from October to May, and embraced surgery and physiology as well as anatomy, illustrated by dissections of the human body. After giving the anatomy of each part, he treated of its diseases, especially of those parts requiring operations. He showed the operations on the dead body, and the various bandages and apparatus; and concluded the course with some lectures on physiology. He continued to give this course uninterruptedly for thirty-eight years, beginning with fifty-seven pupils, and increasing his class to nearly 200, during his long and successful career.

Besides the celebrity of his lectures, his great work on the Human Bones, which went through eight editions during his lifetime, and was translated into most European languages, and other publications, gave much fame to the Edinburgh school.

He was the chief element in the founding of the Royal Infirmary and the Medical Society, which was afterwards incorporated as the Royal Society of Edinburgh.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

TREATMENT OF TRUE CROUP—THE CORBIN OR BROOKLYN METHOD.

BY WILLIAM MADDREN, M.D.

Read before the Medical Society of the County of Kings, Nov. 22, 1892.

The reports of the Health Department of Brooklyn, for the last five years, show an average of 388 deaths a year from croup. But this is misleading, and is less than the actual number of deaths from pseudo-membranous laryngitis, as the above number does not include deaths reported as occurring from laryngeal diphtheria, or diphtheritic croup, these being classified under the head of diphtheria. Considering these facts, it is probable that, in

Brooklyn, between five and six hundred deaths from pseudo-membranous laryngitis occur annually.

Regarding the ætiology of pseudo-membranous inflammations in the larynx etc., over which there has been so much contention, and which so many physicians have settled to their own satisfaction, to be due to diphtheria alone, Dr. William Hallock Park,[1] in a bacteriological and clinical study of 159 cases of pseudo-membranous inflammations, variously situated, found sixteen cases of pseudo-membranous laryngitis that were not true diphtheria—in none of which were the Klebs-Loeffler bacilli found. Dr. Park believes that these cases of true membranous croup were due to streptococci; although staphylococci were sometimes present in moderate numbers, they were never in excess of the streptococci. He says in his summary, "These sixteen cases prove that membranous croup is frequently an independent disease, having no connection with true diphtheria."

The treatment of pseudo-membranous laryngitis by the sublimation of calomel, known as the Corbin or Brooklyn method, was originated and first used by our fellow member, Dr. Job Corbin, in November 1874. The doctor's idea was that of the destruction of the products of inflammation in the windpipe, by subliming a mercurial, and compelling the patient to inhale it by loading the air to be respired with the sublimed material. The better and quicker to accomplish this, and to protect those in attendance from the harmful effects, he caused the patient to be covered by a temporary tent made of sheets, blankets, or other available articles. The black oxide of mercury was the material used in the first sublimation, afterwards the doctor substituted calomel and had a special alcohol lamp made for subliming it.

This treatment, while calling for care and thoroughness, does not, like tracheotomy or intubation, require special skill in the operator, and it has the advantage of being available for immediate and repeated application by those in attendance in the absence of the physician.

The sublimation of calomel should be begun early, as soon as a diagnosis of true croup can be made, or before, if there is a strong suspicion of a membrane forming in the windpipe, as evidenced by a peculiar, dry, barking cough, the disturbance and difficulty of respiration, etc. There is special advantage in beginning treatment thus early, as the object should be, not only to relieve dyspnœa, but to arrest the formation and extension of the pseudo-membrane, and to prevent or lessen systemic poisoning.

[1] Medical Record, July 30 and August 6, 1892.

Preparatory to treatment by sublimation, a dose of calomel of two or more grains, according to age, administered early in the course of a laryngeal inflammation, has a very good effect, and I believe should be generally employed, unless there are special contra-indications.

The patient should be placed in a large, well-ventilated apartment, in which a temperature of about 80° F. can be maintained, and the air of the room kept well moistened by steam obtained by boiling water, or slacking lime, or from steam pipes. Dr. Corbin adds carbolic acid to the water being evaporated. Perhaps still better is the combination recommended and used by Dr. J. Lewis Smith[2] in diphtheria and scarlet fever. For several years I have used it and like its effects.

It consists of:

R Acidi carbolici
Ol. eucalypti aa. 1 ounce.
Spts. terebinth. 8 ounces.

"Add two tablespoonfuls to one quart of water, in a tin or zinc wash basin, or pan of broad surface, and maintain a constant state of ebullition or simmering in the room occupied by the patient." Observations in regard to the use of this vapor indicate it to be an efficient germicide.

The apparatus consists of a tent, and an alcohol lamp. For the tent, the child's crib or a cot may be used. The uprights at the ends may be formed of bed slats, broom-handles, or plastering laths fastened to the head and foot or corners of the crib or cot, with a broom-handle, slat, or stout cord to form a ridge pole. The top of the tent should be a foot or more above the child's head, when sitting up in the crib. The covering of the tent may be two or more stout sheets, or light blankets, applied so that they will cover both ends and overlap at the centre. This will permit the parent or nurse to hold the little patient's hand without uncovering or letting out the vapor, and to reassure and watch the child if necessary. Sometimes it may be desirable to have the patient remain in the vapor under the tent for some little time after the sublimation has been finished; generally there is much relief of symptoms and distress and, occasionally, the worn out little one will fall asleep. The tent may be opened by folding back the sheets or covering from the centre, but if this is done too soon the moisture in the air of the apartment will quickly precipitate the particles of calomel suspended in the air of the tent.

[2] Annual Universal Med. Sciences, 1892, Vol I., J—V.

To keep the air in the tent as pure as possible it is desirable to consume but little time in the burning of each powder. This also avoids raising the temperature in the tent to too high a point, and charging the air with an unnecessary amount of carbonic acid gas.

The alcohol lamp may be such a one as Dr. Corbin has had constructed, and has used for most of his cases, and which I take the liberty and pleasure of exhibiting to you.

As the use of a previously used subliming lamp and outfit may be a possible means of conveying germs to others I have thought it safest to use a new outfit for each case. This may be easily and cheaply constructed by procuring a small alcohol cooking-lamp with tripod, fastening it with three or four tacks to half a crib-slat; the tin cover of a blacking box, or piece of sheet-iron (the thinner the better to favor rapid sublimation) to fasten to the top of the tripod and over the top of the lamp. There should be a concavity or slight indentation at the centre of the tin cover to prevent the calomel from scattering or rolling off when heated, and the edge of the sheet-tin or iron may be turned down, the better to restrain the flame of the lamp. A lamp and outfit so prepared is the one exhibited.

The quantity of calomel used in each sublimation, should be from 30 to 60 grains; the sublimation to be completed in as short a time as possible. The intervals of treatment vary. When the breathing is specially labored and difficult, the burning of the calomel may be required, for a short period, half-hourly; but usually, the treatment is repeated every two or three hours, increasing the interval as the period of relief extends. In my experience, the whole quantity of calomel used upon a case has been from one-half to several—and in one case that recovered eight—ounces.

As an auxiliary I occasionally use Turpeth mineral in one or two grain doses, one, two, or three times in the twenty-four hours, especially when the character of the cough suggests a partial loosening of the pseudo-membrane, with the view of aiding or hastening its separation and expulsion.

When possible, oxygen should be available for immediate administration; it will often be of service and may, occasionally, save a life.

Special attention should be given to sustaining the strength of the patient by nourishment and stimulants, particularly following each sublimation.

I believe, with Dr. Law, that, "while mercurial fumigation will not take the place of surgical means, no physician is justified in

performing intubation or tracheotomy in pseudo-membranous laryngitis, until fumigation has been tried, nor, that failing, is he justified in allowing a patient to die without surgical attention."

After intubation or tracheotomy, when there is evidence, or reason to suspect the formation of a false membrane below the tube, the sublimation of calomel should be employed or continued. Reports received state that this has been done in a number of cases. Dr. Langmann, of New York, makes this course a routine practice.

RESULTS OF TREATMENT BY SUBLIMATION.

From the nearly four-hundred inquiries sent out, we received replies from two-hundred and forty-two physicians, which are tabulated in full in the annexed table. Of these, 65 physicians belonging to this city (Brooklyn) with eleven from New York City and elsewhere, have furnished reports of 505 cases of true croup treated by the sublimation of calomel. Of these 275 or about 54.5 per cent. recovered. Eighty-five of the 505 were tracheotomized or intubated after having been unsuccessfully treated by the sublimation method. Of these, 29 recovered. If we deduct these 29 recoveries after intubation or tracheotomy from the whole number of recoveries after sublimation (275) we have 48.7 per cent. of recoveries from the sublimation method alone. It is worthy of note that in these statistics the percentage of recoveries in those cases first treated by the sublimation method and then either intubated or tracheotomized is greater (34.1 per cent.) than those treated by either tracheotomy (24.2 per cent.) or intubation (30.5 per cent.) without the sublimation treatment.

Articles upon this method of treatment have been contributed by Dr. Job Corbin. [Proceedings Med. Soc. Co. of Kings, Vol. VI., No. 6, Aug., 1881, and N. Y. Med. Journal, March 10th, 1888.]

Dr. George McNaughton, read before Kings Co. Med. Association and published in Gaillard's Med. Journal, Jan. 1889.

Dr. George E. Law, read before this society, and published July 1890, in BROOKLYN MED. JOURNAL, Vol. IV., page 525.

INTUBATION OF THE LARYNX.

BY GEORGE McNAUGHTON, M.D.

At a meeting of this Society held March 18, 1887, it was my pleasure to present for the first time in this city, a paper on "Intubation of the Larynx according to the O'Dwyer Method." At that

time I had but one case to report, and that was a fatal one. The importance of the subject was recognized by the members of this Society, and a demonstration of intubation on the cadaver was witnessed by a large number of physicians who were much interested in this subject. As a consequence of this interest, and through the kindness of several physicians, I soon had a record of five cases, which were reported with the original article in the New York Medical Journal of June 4, 1887. Of these five cases one recovered.

Dr. Joseph O'Dwyer deserves great credit for his patient, honest and modest manner of treating his achievement. His experiments were commenced in 1880, and he wrote to me a few weeks ago that if one patient in ten had recovered from tracheotomy, probably he would not have tried to intubate the larynx. The method then was the work of a disappointed tracheotomist. Changes in the material of which the tubes were made, as well as changes in their shape, were made from time to time, until 1885, when he was induced to present the result of his labor before two scientific bodies. His method was at once adopted by many physicians who were anxious to use any reasonable substitute for tracheotomy, which had proved unsatisfactory in their hands.

It is worthy of note that Dr. O'Dwyer was not forced to abandon his efforts, as was Bouchut, of Paris, years before Nevertheless, there were some eminent in medicine and surgery who opposed his method without giving it the trial that a rational operation deserves. Dr. O'Dwyer claimed that a tube could be placed within the larynx through the mouth, that the larynx would accommodate itself to the presence of this foreign body, and that sufficient air could be passed through the tube for proper and full aeration of the blood. His claims have been fully justified by thousands of cases operated on. Of course he did not claim that his procedure had any curative effect on the disease.

In this paper I hope to emphasize two points, which are conceded to be essential in the proper performance of intubation. First: A physician before operating should practice on the cadaver, not confining his attention or work to one cadaver, but extending them to at least a dozen. In order that this practice shall be fruitful, he should, if possible, have the benefit of an instructor who knows how to do the operation. There is no doubt that many accidents, and some deaths, have occurred that may justly be attributed to the bungling of novices. When we realize that we are manipulating diseased structures in and about the air

channel which is absolutely necessary to life, we comprehend the necessity of preparation before attempting so grave a duty. Second: Instruments should be properly constructed. The popularity of intubation naturally caused a great demand for instruments, and the demand was quickly supplied by manufacturers who had more thought of the dollar than for the poor victims who were to wear the tubes. As a consequence the profession were furnished with inferior instruments, which did great injustice to the inventor as well as to the method. Had Dr. O'Dwyer patented his device this mistake could have been averted, for he then could have controlled the manufacture. This is not mentioned to encourage the application for such patents, but merely to call attention to one of the weak points of our generous profession.

Now supposing we have had the necessary practice on the cadaver, and have succeeded in getting a good set of instruments, what are the indications for operating? Precisely the same as for tracheotomy. Cyanosis, marked recession of those parts of the chest walls which yield to the external air pressure when the internal air pressure is much diminished, absence or feebleness of the respiratory murmur over the lower posterior part of the lungs, and great restlessness. These symptoms being present, no matter what the previous treatment has been, no matter what has been the experience of the physician, either in leaving the patients alone, in tracheotomy, or in intubation, this is a proper case for mechanical relief. If intubation be selected, remove all unnecessary covering from the patient's chest and wrap him in a sheet or blanket; then have him held by a level-headed person, while a physician, if possible, attends to his head. When everything is ready, separate the patient's jaws with the gag, pass the left index finger over the tongue and raise the epiglottis; then insert the tube, and as soon as assured that the latter is in the larynx, sever and pull out the retaining string.

I have rehearsed these steps to indicate about how long it takes to do the operation, should it be perfectly done. The child coughs violently, the more violently the better, for by that means considerable material is dislodged from the air passages. It has been noticed that those patients who at first cough most, do best. As a rule, the change after the introduction of the tube is prompt and marked. Sometimes, however, like the boy who has been running around the block, the patient requires a little while to get his breath, but this is noticed most frequently in patients who are much depressed.

Intubation is not entirely devoid of danger; accidents have occurred, and no doubt will occur, the same as with tracheotomy, and they are not unlike the accidents of the last-named operation, such as pushing down membrane at time of introduction. Strange as it may seem, this is a comparatively rare accident. I can recall but three instances in 143 cases. It proved fatal in two cases: the other recovered her breath and lived several days after. In one the trachea was at once opened, but too late to save the patient. In the last mentioned case, I think the accident was caused by a wrongly constructed tube. In one of the cases seen a few weeks ago obstruction occurred a few minutes after introduction. The tube was at once removed, and found perfectly clear. The child made unsuccessful efforts to get her breath, and we proposed tracheotomy, but as the family objected, we continued our efforts at artificial respiration. These efforts were made while the child was held by her feet, head down. After a few moments she began to breathe, and in a little while coughed up considerable membrane, after which the tube was reinserted, and the child breathed easily and quietly, but died a few days later. This case is mentioned to encourage long and continued effort to restore the patient, even when it seems useless.

The tube may become clogged by membrane; when this accident occurs the tube is usually expelled through the mouth, sometimes swallowed; if not dislodged from the larynx, it should, of course, be removed, when the patient will be noticed to breathe more easily, but even if considerable membrane be thrown off, the tube should be at once reinserted lest a new membrane form, as it is very likely to do, and stenosis result. In a case seen with Dr. Wallace of this city, the tube was coughed up and the patient died at once. So far as I know this is the only accident of the kind that has occurred in my cases.

Dr. O'Dwyer designed a tube to be used when the larynx contains loose membrane; this tube is to be used only a few hours at a time. It is shorter and of a much larger calibre than the corresponding tube of the regular pattern. After the membrane has been expelled the regular tube is to be inserted, if necessary.

I have had but limited experience in the use of this particular tube, but am sure it has a proper place, and I am inclined to think it would be well for physicians practising intubation to provide themselves with a set of these also. Moreover these tubes having a larger calibre, drainage through them will be more free; at the same time the expulsive force of the cough will be less in con-

sequence of the increased calibre of the tube, which is a disadvantage.

Many have objected to intubation because they believe that food sometimes passes through the tube into the lower air passages. I do not think this occurs very often, but it has been a matter of common observation that particles of food are found adhering to the outside of the tube. If some means can be devised to fill more perfectly the natural space occupied by the head of the tube, this objection will be obviated.

One of the greatest objections to intubation since its introduction has been the difficulty of deglutition, while the tube is in the larynx. This has been overcome to a very great extent by what is known as the Casselberry method. Dr. Casselberry discovered that patients could swallow best when placed in such a position that the pharynx is on a lower plane than the larynx. I think that this procedure is now usually adopted. Some patients have no particular difficulty in swallowing from the first, semi-solid foods being most easily swallowed. In a few cases I have used the œsophageal tube, but do not recommend it because of the traumatism to the throat; nevertheless, I would use this method of introducing food should other means fail. Rectal feeding may also be done. Patience, care, and the Casselberry method make forced feeding unnecessary. Patients in whom intubation has been perfectly done and with only one attempt, swallow better than those on whom it is necessary to make several attempts. The medication during the time that the tube is in the larynx is the same as would be pursued if the patient had not been intubated, care being taken, however, to administer medicine in a heavy vehicle so that it can be swallowed more easily.

The proper time for the removal of the tube is a point to be decided by the judgment of the operator; the average time will be about five and one-half days, but I have not been in the habit of determining by time, preferring to wait until the disease has stopped, and the diseased tissues have taken on healthy action, as indicated by the clearing of the tongue and other signs that are expected in convalescent patients. At any time if patients show signs of insufficient air, and there is no rise in temperature, I would remove the tube and look for encroachments on its lumen, but if restlessness and dyspnœa are accompanied by a suddenly increased temperature, say 103° F. or over, I am quite certain that the case will terminate fatally, and that these symptoms are caused by an extension of the false membrane downward, which is the cause of death in a majority of cases. Therefore, under these circum-

stances it would be useless to remove the tube, and just as useless to do a tracheotomy, hence the great mortality in tracheotomies that are done subsequent to intubation. Occasionally one may recover, but such cases, I am inclined to think, would recover if the O'Dwyer tube had been allowed to remain.

In regard to statistics, I would like to state that although the weak points of that scheme as applied to the medical sciences are fully appreciated, still I believe that the larger the number of a particular class that can be collected, the more nearly can be drawn correct conclusions; in other words, the defective points of a small number are eradicated to a considerable extent by a consideration of a comparatively large number. With that end in view the following circular letter, with questions, was sent to nearly four hundred physicians supposed to have had considerable experience in the treatment of true croup. By this means we are able to give the experience of men who have practiced both methods:

"BROOKLYN, N. Y.,
October 24, 1892.

"DEAR DOCTOR:

"We are interested in compiling statistics regarding the different methods of treating Laryngeal Stenosis. We have, therefore, prepared the enclosed, and propose sending a copy to every physician known to us to have had considerable experience in the treatment of these cases.

"Should you desire a copy of the results of our inquiry in this direction, please so state, and we shall take great pleasure in forwarding the same to you as soon as they are printed.

"For proper incorporation in our paper, it is necessary that a reply shall be in hand by November 8, 1892.

"Very respectfully,
"GEORGE McNAUGHTON,
"WM. MADDREN.

"How many tracheotomies have you personally performed?
"How many recovered?
"How many tracheotomies were performed after intubation?
"How many of these recovered?
"How many intubations (O'Dwyer) have you personally performed?
"How many recovered?

"How many intubations were performed subsequent to tracheotomy?

"How many of these recovered?

"Have you had experience in the treatment of Membranous Croup (including Diphtheritic Croup) by calomel sublimation (Corbin)? and, if so, how many cases?

"How many recovered?

"How many cases of calomel sublimation were afterward tracheotomized or intubated?

"Result?

"Remarks:

"Signed:

"P. O. Address:"

Answers were received from over one-half. I suppose there are many in this city who should have received a letter, but were not personally known to us to have had special experience. These letters were not confined to Brooklyn or New York physicians, but were sent all over the country. This was done with the expectation of accumulating as many facts and from as large a number of cases as possible. We considered the propriety of securing the ages of patients treated, but finally concluded that such an attempt would not be feasible. This is much to be regretted, for it would be interesting as well as instructive to learn the percentage of recoveries according to age.

STATISTICS OF THE TREATMENT OF TRUE CROUP BY TRACHEOTOMY, BY INTUBATION, AND BY CALOMEL SUBLIMATION;

COMPILED BY DRS. GEORGE McNAUGHTON AND WILLIAM MADDREN.

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy.	Recoveries.	Calomel Sublimations.	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
D. P. Allen	Cleveland, Ohio			...		11	2		...		...			
H. A. C. Anderson	New York City					11	4		..					
J. A. Anderson	San Francisco, Cal.		...			39	9							
Benjamin Ayers	Brooklyn, N. Y.	1	0											
Francis Baldwin	,, ,,	4	1						..	3	0			
I. H. Barber	,, ,,	8	2						...	5	5			
E. H. Bartley	,, ,,	1	0	...		5	0			25	15	2	0	
H. O. Bates	Chicago, Ill.	5	1	2	0	23	11					..		Believes that more recoveries would have followed had intubation been performed earlier.
W. P. Beach	Brooklyn, N. Y.	6	5				...			3	1	1	0	
C. D. Beasley	,, ,,	3	0						...		..			
Carl Beck	New York City	68	17	6	3	29	7		..					Believes that some of his successful cases of intubation would have recovered without tube. Objects strongly to intubation in membranous croup.
H. O. Bender	Brooklyn, N. Y.	2	0	2	0	38	10			15	4	4	0	
S. H. Benton	,, ,,	13	5	..	..					12	6			Has had best results from bichloride spray.
Rudolph Berendsohn	,, ,,			...			..			6	4	1	0	
H. W. Berg	New York City					17	4							
J. C. Bierwirth	Brooklyn, N. Y.			...						3	1			

S. C. Blaisdell	Brooklyn, N. Y.	9	6											
J. Block	Kansas City, Mo.	8	0			8	1							All the cases operated on were extremely grave and far advanced toward death.
H. Boenning	Philadelphia, Pa					3	1							
J. B. Bogart	Brooklyn, N. Y.	3	0	1	0					1	0			
S. D. Boggs	,, ,,					3	0							
H. J. Boldt	New York City	28	18			16	9							
J. H. Bowen	Brooklyn, N. Y.									10	1			
G. E. Brewer	New York City	12	1			1	0							
A. Brinkman	Brooklyn, N. Y.	5	2							6	4	2	1	Believes that calomel fumes loosen membrane; as in two cases sublimated, a cast was thrown up and recovery followed.
A. Brothers	New York City	1	0			38	14							
Dillon Brown	,, ,,	11	0	4	0	545	171	1	0					Uses sublimation extensively, but had not time to look up statistics.
Wm. Browning	Brooklyn, N. Y.									2	1			
A. Y. Brugman	New York City					18	7							
E. F. Brush	Mt. Vernon, N. Y.					20	1							
H. A. Bunker	Brooklyn, N. Y.									2	0			
Boston City Hospital	Reported by Lovett	466	111			392	80							Includes 139 tracheotomies that were excluded from Dr. Lovett's report because they were the severest and most desperate cases. I did not know what else to do with them.
Augustus Caillé	New York City	30	8			148	42			6	2	5	1	Considers sublimation a valuable measure which should be used early, before dense membranes form.
C. P. Caldwell	Chicago, Ill.				.	7	1							In one case, membrane was pushed down by tube, and instant death followed.
W. H. Carmalt	New Haven, Ct.	6	1			5	0							
W. L. Carr	New York City					5	1							
A. G. Case	Pittsburgh, Pa.					14	4							
W. E. Casselberry	Chicago, Ill.	6	2	3	1	15	3							
John Chambers	Indianapolis, Ind.					1	0							
J. W. Chambers	Baltimore, Md.					10	2							

STATISTICS—Continued.

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy.	Recoveries.	Calomel Sublimation.	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
W. B. Chase	Brooklyn, N. Y.									2	0			One death was from uræmia.
W. Cheatham	Louisville, Ky	2	1	1	0	56	22	...						
D. W. Cheever	Boston, Mass.	55	14				...							
B. G. Clark	New York City		...	...		4	3							The fatal case coughed up membrane with four branches.
J. L. Cleveland	Cincinnati, O.	4	0			31	6			...				
E. L. Cocks	New York City	4	2	1	0	47	22	1	0	2	1	1	1	
D. C. Cocks	,, ,,					22	6							
G. H. Cocks	,, ,,					14	4							
James Collins	Philadelphia, Pa.	7	1			9	3	...						
F. H. Colton	Brooklyn, N. Y.	2	0							1	1			
J. J. Conway	,, ,,	4	0				...			2	0			
T. P. Corbally	,, ,,	2	2				..			...				
J. Corbin	,, ,,					.				20	17			Two deaths from albuminuria two weeks after relief of laryngeal stenosis; one death from sepsis.
J. O. D. Cullen	Richmond, Va.		...		...	1	0				..		...	
J. G. Curtis	Louth					1	1							
W. N. DeLong	Brooklyn, N. Y.	8	1			...				2	2			All the tracheotomies were performed as a last resort.
C. E. Denhard	New York City	34	15	3	1	27	13							Used bichloride of mercury in all cases.
Charles Denison	Denver, Col.	1	1			30	10							
W. H. DeWitt	Cincinnati, O.	2	1			15	7							

D'Heilly	Paris, France					11	2							
F. Donaldson, Jr	Baltimore, Md					1	0							
A. J. Dower	Brooklyn, N. Y	27	17							13	3	8	5	Always uses bichloride of mercury and chlorate of soda internally, combined with sublimation. Two of the cases operated on were only 22 months old and both recovered.
N. A. Drake	Kansas City, Mo					1	0							
J. H. Droge	Brooklyn, N. Y	2	0			9	3			6	2	3	0	
W. F. Dudley	,, ,,	2	0			2	1							
L. H. Dunning	Indianapolis, Ind.	4	0			14	4							
Joseph Eichberg	Cincinnati, O.					95	34							
Z. T. Emery	Brooklyn, N. Y	1	0							15	8	1	0	
G. A. Evans	,, ,,	2	0											
E. D. Ferguson	Troy, N. Y.					16	0							
J. W. Flynn	New York City	2	0			11	2							
G. R. Fowler	Brooklyn, N. Y	54	12							6	0			
F. Forchheimer	Cincinnati, O.					5	2							
J. M. Fox	Philadelphia, Pa					1	1							
S. E. Fuller	Brooklyn, N. Y	6	3			4	0							Prefers intubation for babies; tracheotomy after fourth year.
I. P. Furniss	Selma, Ala.					1	1							
J. D. Griffith	Kansas City, Mo	32	8			36	8							
W. E. Griffiths	Brooklyn, N. Y	2	1							5	5			
William Hailes, Jr	Albany, N. Y	2	0	2	0	400	132							
Gordon R. Hall	Brooklyn, N. Y									2	1			
I. H. Hance	Saranac Lake, N. Y.	4	0	1	0	6	1							
M. Hartwig	Buffalo, N. Y	3	2			5	3							Two tracheotomies for non-croupous troubles not included.
J. B. Harvie	Troy, N. Y.	3	0			43	4							
M. P. Hatfield	Chicago, Ill.					8	0							

STATISTICS—*Continued.*

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy.	Recoveries.	Calomel Sublimations.	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
L. Haupt	New York City	3	0		...	3	1			.				
D. C. Hawley	Burlington, Vt			...		2	0							
S. Hendrickson	Brooklyn, N. Y	1	0			.				1	1			
J. V. Hennessy	Albany, N. Y		...		...	30	9							
F. Henrotin	Chicago, Ill	9	2	2	0	111	23							
C. C. Henry	Brooklyn, N. Y				...	..	...			4	3			
F. W. Hinkle	Buffalo, N. Y		...			1	0	...		...				
A. E. Hoadley	Chicago, Ill	5	2	1	0	46	12			...				
J. F. Holmes	New York City				...	6	4				..			
L. E. Holt	" "					10	2			...				
Hopkins (Stern)						6	6							
F. Huber	New York City	.. .				94	37						...	
P. D. Hughes	Kansas City, Kas	1	0			9	4			3	3	2	2	
J. W. Humrichouse	Hagerstown, Md					5	1	...		...			...	
O. H. Hund	San Francisco, Cal				.. .	3	1		...	...				
J. H. Hunt	Brooklyn, N. Y	4	0											
A. S. Hunter	New York City	5	0			8	2							Three intubations performed after pulmonary complications had appeared.
N. S. Hunting	Quincy, Mass			9	1	40	14			...	...			
W. M. Hutchinson	Brooklyn, N. Y				...	...				8	5			Believes that calomel sublimation, if properly administered and in sufficient quantity, say ℥ i. every two hours, will give more recoveries than any other treatment.

J W. Hyde	Brooklyn, N. Y.	3	1											
E. F. Ingals	Chicago, Ill.					25	6							
H. D. Ingraham	Buffalo, N. Y.					10	2							
H. F. Ivins	Philadelphia, Pa.	30	1			18	2							Thinks results would now be more favorable. Has a good opinion of calomel sublimation. In common with others, holds in high esteem the bichloride treatment as published by himself in 1884.
A. Jacobi	New York City	650	124											
C. G. Jennings	Detroit, Mich.	50	23	7	0	46	9							
Charles Jewett	Brooklyn, N. Y.	8	1											Successful case sublimated before and after operation.
F. A. Jewett	" "	2	0							10	6			
G. N. Jones	Gloucester, Mass.					1	0							
S. S. Jones	New York City	6	1			2	1			2	2			Thinks highly of sublimation treatment.
M. S. Kakels	" "	6	1			1	1							
J. A. Kene	Brooklyn, N. Y.									8	7	2	1	
J. C. Kennedy	" "	28	4			10	2			1	0			
J. S. King	" "	8	0			3	0			7	4			All cases operated on were extreme and in most unfavorable circumstances.
W. H. Knap	Chicago, Ill.					3	2							
J. L. Kortright	Brooklyn, N. Y	3	0							12	11			Fatal case of sublimation moribund when seen. As tent support, uses step-ladder or two chairs back to back.
G. R. Kuhn	" "	4	1			3	1			3	2	1	0	
G. Langmann	New York City					1	1							
G. E. Law	Brooklyn, N. Y	1	0							25	18	3	1	
Malcolm Leal	New York City	2	0	1	0	20	4							
F. Le Moyne	Pittsburgh, Pa					2	0							
F. W. Lester	New York City					188	71			48	23	38	14	
J. H. Letcher	Henderson, Ky.	3	1			1	3							
E. A. Lewis	Brooklyn, N. Y.	15	2							1	0	1	0	
W. S. Lindsay	Topeka, Kan.					8	4							

STATISTICS—Continued.

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy.	Recoveries.	Calomel Sublimations	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
T. M. Lloyd	Brooklyn, N. Y.					.			...	0	2			Deaths from causes other than laryngeal stenosis.
Christopher Lott	,, ,, ..									6	4		...	
D. F. Lucas	,, ,, ...			...						17	7			
Wm. Maddren	,, ,, ...	4	2					..		10	7			
S. A. Mahoney	Holyoke, Mass.					10	3			1	0	1	0	
Major	Montreal, Can.					7	3							
G. W. Mason	Bloomington, Ill.			...		6	3				...		...	
A. R. Matheson	Brooklyn, N. Y.	3	1			..				6	0			
Nathaniel Matson	,, ,, ...			...						10	9			Has the greatest faith in sublimation treatment.
William McCollom	,, ,, ...	2	1					...		1	1			
J. C. MacEvitt	,, ,, ...	7	1			9	2							
J. P. McGowan	New York City	1	0		...	12	4			1	1	1	1	
H. C. McLean	Brooklyn, N. Y.	..		..			...			17	7		...	All treated by Corbin method since 1888. Better nursing would have given better results.
James McManus	,, ,, ...	...				33	8			2	0	2	0	One of the sublimation cases died of empyæma.
George McNaughton	,, ,, ...	2	0	2	0	143	42			3	3			Does not include two cases of recovery after intubation for relief of non-croupous stenosis.
. C. McPhail	,, ,, ...	2	0							...	...		...	
S. A. McWilliams	Chicago, Ill. ...		...			3	0				..			
L. E. Meeker	Brooklyn, N. Y.	..								20	16			
F. W. Merriam	New York City	3	0			20							...	

F. E. Miller	New York City	3	0	1	0	7	2	1	1	4	4			Is a firm advocate of sublimation; believes also in large doses of calomel in all stages of diphtheria.
F. H. Miller	Brooklyn, N. Y.									9	5			
J. L. Millfinger						2	1							
S. G. Miner	Detroit, Mich	14	7	1	0	18	8			6	2	1	1	
E. W. Mitchell	Cincinnati, O	1	0			15	8							
E. E. Montgomery*	Philadelphia, Pa	28	10	1	1	70	31							
E. C. Morgan	Washington, D. C					6	0							
T. G. Morton	Philadelphia, Pa					2	0							
H. H. Mudd	St. Louis, Mo	117	36	3	2	15	3							
David Myerle	Brooklyn, N. Y.	3	0							1	1			
T. H. Myers	New York City					24	4							
W. H. Nammack	,, ,,					1	0							
J. W. Niles	Chicago, Ill					13	1							
J. P. Nolan	New York City					13	2							
N. L. North	Brooklyn, N. Y.	2	0							2	2			
W. A. Northridge	,, ,,									3	1			All desperate cases. Neither death from laryngeal stenosis.
W. P. Northrup	New York City					45	10							
J. F. O'Connell	Brooklyn, N. Y.									2	1			Secondary tracheotomy recorded in a few cases, but his own results with that operation were so bad that he seldom thinks seriously of it when intubation fails. If he had had even one recovery in ten, intubation would probably still be a thing of the future. In the third series of 100 cases, which gave 30 recoveries, there were 25 consecutive deaths. *First 100 cases, with 17 recoveries, omitted at Dr. O'Dwyer's request.
Joseph O'Dwyer	New York City					*266	75							
D. O'Shea	Chicago, Ill	3	2	1	1	98	37	1	0					
A. Otterson	Brooklyn, N. Y.	7	2											
A. R. Paine	,, ,,									3	0			
L. L. Palmer	Toronto, Ont.	14	2			160	40			4	0	4	0	Sees no reason or object in intubating after tracheotomy, or vice versa except, in latter case, in the vain hope of extracting membrane.
Roswell Park	Buffalo, N. Y.	15	0	1	0	31	7							
T. K. Perry	Albany, N. Y.					1	0							

STATISTICS—*Continued.*

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy	Recoveries.	Calomel Sublimations.	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
C. P. Peterman	Brooklyn, N. Y.									5	4			
J. B. C. Phillips	" "	3	3							8	0			
L. S. Pilcher	" "	66	22											
J. W. Pinkham	Montclair, N. J	3	0			17	5							
O. H. Presby	New York City					4	1							
O. J. Price	Chicago, Ill.					3	1							
F. K. Priest	New York City					50	14							
David Prince	Jacksonville, Ill.					3	2							
C. G. Purdy	Brooklyn, N. Y									2	2			
W. P. Pusey	Louisville, Ky	1	1			70	33							
P. H. Pyne	Yonkers, N. Y.					91	19							
F. C. Raynor	Brooklyn, N. Y.	35	0	1	0	1	0							
H. N. Read	" "	1	9	1	1									
E. G. Rehfuss	Philadelphia, Pa					6	3							
Rehn	Frankfort, Ger.					18	6							
J. J. Reid	New York City					10	4							
E. Reynolds	Brooklyn, N. Y.	3	1											
J. E. Richardson	" "	5	1							5	5			
J. R. Richardson	Chicago, Ill.					98	26							

N. S. Roberts	New York City	1	0			9	5							All died of extension of diphtheritic process.
V. A. Robertson	Brooklyn, N. Y.	1	0							6	0			
J. A. Robison	Chicago, Ill.	2	1			19	11							
T. M. Rochester	Brooklyn, N. Y.					1	1			2	1			
H. C. Rogers	" "	5	2											
O. S. Runnels	Indianapolis, Ind.	2	0			4	1							
J. D. Rushmore	Brooklyn, N. Y.	13	2			2	0							
J. F. Russell	New York City					1	0							
Julius Salinger	Philadelphia, Pa.					13	6							
F. C. Schaefer	Chicago, Ill.	4	0	1	0	6	1							
J. C. Schapps	Brooklyn, N. Y.	2	1											
Julius Scheider	New York City	3	1			11	5							
J. M. Schley	" "	5	0			3	0							
J. C. Schminke	" "					4	0							
A. Seibert	" "					4	1							
F. S. Sellew	" "					2	0							
J. H. Seymour	" "					10	3							
W. W. Seymour	Troy, N. Y.	4	0			16	4							Believes thoroughly in intubation and regards Casselberry's inversion of the patient as a great advance. Has kept all his recent cases inverted for drainage, and has had no trouble in feeding or administering medicines by mouth.
F. W. Shaw	Brooklyn, N. Y.									4	2			
W. E. Shaw	Cincinnati, O.	3	1			60	21							Is convinced that the tube should be removed as soon as the case goes badly for any cause; if necessary, the tube may be re-introduced. Finds it almost impossible to get consent to tracheotomy until the favorable time has passed.
C. S. Sheldon	Madison, Wis.									2	2			
S. Sherwell	Brooklyn, N. Y.	20	5			1	1	1	1					Tracheotomies all late operations.
C. M. Shields	Richmond, Va.					1	0							
B. T. Shimwell	Philadelphia, Pa.	6	0	1	0	137	63							
F. J. Shoop	Brooklyn, N. Y.	2	0							6	6			

STATISTICS—Continued

Name.	Residence.	Tracheotomies.	Recoveries.	Tracheotomies after Intubation.	Recoveries.	Intubations.	Recoveries.	Intubations after Tracheotomy.	Recoveries.	Calomel Sublimations.	Recoveries.	Tracheotomies or Intubations after Sublimation.	Recoveries.	Remarks.
W. K. Simpson	New York City			...		20	2							
H. W. Skerry	Brooklyn, N. Y.	3	1			19	9							
Geo. Skinner	Hamilton, O					17	6							
S. Solis-Cohen	Philadelphia. Pa	1	0			6	2							
Sotay Lastra	Seville, Spain					14	4	...						
W. E. Spencer	Brooklyn, N. Y.	7	5	...	...					3	2	1	1	
R. J. Stanton	New York City					19	9							
W. G. Stark	Hamilton, Ont.					11	2							
James Stenhouse	Denver, Col					1	0							
M. J. Stern	Philadelphia, Pa					6	3		...					
A. B. Strong	Chicago, Ill.	27	5	1	0	82	23							
F. H. Stuart	Brooklyn, N. Y.	5	2							1	1			
J. D. Sullivan	,, ,,	1	0					...		10	4			Believes that tracheotomy and intubation yield equal results.
W. F. Swalm	,, ,,	1				...								
John Tascher	Chicago, Ill					23	11							
Thiersch	Germany					32	3						...	
George Thilo	Chicago, Ill					7	4							
C. M. Thomas	Philadelphia, Pa	42	9	3	0	13	0							
F. Tipton	Selma, Ala					1	1							

M. W. Townsend ...	Bergen, N. Y.....	13	7											
F. Van Fleet.....	New York City.....					22	7							
W. V. Van Lennep....	Philadelphia, Pa.....					3	0							
N. Volkenberg.....	New York City.....					14	5							In one case, tube left in larynx 23 days. Uses bichloride of mercury in large doses.
G. Wackerhagen.....	Brooklyn, N. Y.....	15	4											
Waldon Smith.....	England.....					3	2				...			
William Wallace	Brooklyn, N. Y.....	14	6											Oldest patient, 56 years old; youngest, 22 months.
F. E. Waxham.....	Chicago, Ill.....	30	1	6	0	425	151							
J. B. Wheeler	Burlington, Vt.....	2	0			17	6		...					Prefers intubation; is not aware of a recovery after tracheotomy in his city.
J. A. White.....	Richmond, Va.....					4	0							
H. F. Williams.....	Brooklyn, N. Y.....	7	3											
J. M. F. Winfield.....	,, ,, ...									7	4			One case died of paralysis one week after disappearance of diphtheritic croup.
J. E. Winters.....	New York City. ..					6	0						...	
F. W. Wunderlich....	Brooklyn, N. Y.....	12	3											
Chas. Zellhorfer.....	,, ,, ...	2	1							6	2			
Totals.....		2417	586	70	11	5546	1691	5	2	505	275	85	29	

In asking this information we have only to say that our sole object was to get at the truth of the matter. How nearly this has been attained must be left to the judgment of our readers. We are aware that there are a few sources of error, but that the statistics are in the main correct, we have no doubt. So many answers have been received that a recital of them would prove tedious, still I shall call attention to some suggestions culled from them. The first to which I shall direct attention are two letters received from Dr. O'Dwyer, as follows:

"Dear Dr. McNaughton:

My total number of intubation cases for croup is 366. First hundred almost all experimental, 17 recoveries; second hundred, 27 recoveries; third hundred, 30 recoveries, and 66 on fourth hundred, 18 recoveries.

All I ask is that the first hundred cases be not included in calculating the general percentage of recoveries. Superficial readers, and they are the majority, only look at gross results. I have had no secondary tracheotomies either in hospital or private practice, although I have recommended it in a few cases. My own results with tracheotomy as a primary operation, were so bad that I seldom even think seriously of it when intubation fails. If I had had even one recovery in ten, intubation would probably be still a thing of the future,

Yours very sincerely,

J. O'Dwyer.

P. S. It may be of interest to those who are in the habit of striking percentages from a few cases that in the third series of one hundred cases, in which were 30 recoveries, there was one run of 25 consecutive deaths. J. O'D."

"New York, October, 29, '92.

"Dear Dr. McNaughton:

Statistics that give only the number of cases and the number of recoveries are of little value in determining the comparative merits of intubation and tracheotomy in the treatment of croup, because tracheotomy is seldom resorted to in children under two years of age while intubation is performed in all cases regardless of the chances of recovery, simply as a means of euthanasia. As an example I will repeat some facts given in my paper read before the New York Academy of Medicine on the 20th inst. I selected the second and third series of one hundred cases, excluding the first because largely experimental, and the fourth hundred as not yet complete. In these 200 cases then there was only one recovery in fourteen during the first year of life; one in six during the second

year, and almost one in four during the third year. Fifty, or one-fourth of the number, were under two years of age, and 33 between two and three years, or 83, 41.5 per cent. under three years. There were 57 recoveries in the 200 cases.

Now if some one will present an equal number of tracheotomy cases in which 41.5 per cent. were under three years, with equal results, the information will be valuable from the scientific standpoint at least.

In the medical treatment of croup, mercury in some form is the only remedy in which I have any confidence, and its application in the form of calomel fumigations is far superior to all other means of administration. I am satisfied that I have saved at least twenty cases from intubation during the two years that I have been using this method of giving mercury. Great credit is due to Dr. Corbin for having instituted this, the most valuable therapeutic measure in the treatment of croup, at present within reach.

Yours very sincerely,

J. O'Dwyer."

Comment from me is unnecessary as these letters explain themselves.

Dr. W. W. Seymour, of Troy, N. Y., writes as follows: "I believe most thoroughly in intubation, and regard Dr. Casselberry's inversion of patients as a great advance. All my recent cases I have kept inverted for drainage, and have no trouble in feeding and administering medicine by mouth."

This is rather a new idea of Dr. Seymour's as to the matter of drainage, and certainly should be tried. His experience is based on sixteen cases, of which four recovered.

Dr. S. E. Fuller, of this city, who has done six tracheotomies with three recoveries, and four intubations with no recoveries, states that he prefers tracheotomy in patients over four years old.

A recent German writer states that tracheotomy should be done in all patients under two years, because they have weak respiratory muscles, and the larger the external opening the better chance of getting rid of poisonous material. It seems to me that his argument explains just the reason why intubation is to be preferred. Very young children usually have no trouble with expiration in croup, the difficulty being almost entirely with inspiration, and the smaller the aperture of expiration the greater the force that can be brought to bear for the dislodgement of undesirable material.

Dr. Carl Beck, of New York, whose experience is based on 68 tracheotomies, with 17 recoveries; 6 tracheotomies after intuba-

tion, with 3 recoveries, and 29 intubations, with 7 recoveries, writes, "Some cases intubated would have recovered without tube. Strongly object to intubation in membranous croup." This is the only instance in the present report in which the operator objects entirely to intubation. If he bases his conclusions on the number of his cases, which is not large, why not intubate first, and afterwards tracheotomize, for in that operation his report shows fifty per cent. of recoveries.

Dr. A. J. Dower, of Brooklyn, reports 27 tracheotomies, of which 17 recovered; he reports two recoveries in children 22 months old.

Dr. J. D. Sullivan, of this city, says, "My observation leads me to believe that tracheotomy and intubation yield equal results."

Dr. G. Langmann, of New York, writes that he uses calomel fumigation after either tracheotomy or intubation. This suggestion I wish to endorse, having had considerable experience in sublimating cases after intubating, and I am sure that it is a rational and good treatment, and one that will very materially increase our percentage of recoveries.

Dr. W. E. Shaw of Cincinnati, whose report shows three tracheotomies with one recovery, and sixty intubations with twenty-one recoveries, says: "The more cases I see the more I am convinced that the tube should be removed as soon as the case does badly after introduction, no matter what the cause. The tube may be re-introduced if necessary."

I cannot understand the Doctor's reasons for removing the tube, unless there be symptoms of obstruction. Patients may certainly do badly from extension downward of the false membrane, or for other causes, but this should not be sufficient reason for removal of the tube. I can understand but one distinct reason for removing tube, and that is some evidence that it is not clear.

Dr. L. L. Palmer, of Toronto, who has done fourteen tracheotomies with two recoveries, and 160 intubations with forty recoveries, writes: "I see no reason or object in intubating after tracheotomy, or vice versa, except in the latter case, in the vain hope of getting rid of membrane." A number of operators have done tracheotomy subsequent to intubation, and the mortality has generally been very high, which fact the surgeons who prefer the operation of cutting have rather unjustly attributed to the late tracheotomy, seeming to forget that the false membrane had extended into the lower air passages. I should certainly always expect a high mortality rate in tracheotomies done as a secondary operation.

In certain reported instances it was said that patients had been intubated before they could be relieved of their tracheal tube;

it was a desire to find out how far that had been done that prompted the question. The report shows that it has not been once done.

Prof. A. Jacobi, who has probably done tracheotomy more times than any other one operator in this country, his number being 650, showing 124 recoveries, briefly writes: "Think results would now be more favorable. Results differ in different seasons. Have a very favorable opinion of calomel sublimation treatment. Corrosive sublimate treatment, as published by me in 1884, is held in very high esteem by myself and others."

I am glad to be able to add to the above that Prof. Jacobi has become a thorough believer in intubation; that it is now his rule to recommend this operation in cases requiring mechanical relief. This is certainly a magnificent indorsement from an expert, who at first, I believe, opposed intubation.

The next series of cases that I would like to discuss are those reported by the Boston City Hospital, by Dr. Robert W. Lovett, whose article, "Intubation vs. Tracheotomy," appeared in the Medical News, Aug. 27, 1892. Up to 1887, tracheotomy was, of course, the operation resorted to when relief was required. Previous to that year there had been done 327 tracheotomies (he does not mention how many operators) with ninety-five recoveries, making a recovery percentage of 29.05. Some accidents happened in these operations, but I shall mention only hæmorrhage, which was the cause of death in four instances; and difficulty in removing the tubes in four instances, but these cases ultimately recovered. The first intubation was performed December 31, 1886; from that date until Janurary, 1891, this operation has been done 392 times, with eighty recoveries, making a recovery percentage of 20.41.

Having mentioned the accidents that occurred in the tracheotomy cases, he considers it, of course, only fair to enumerate those that occurred in intubating. First, twenty-one times the attempt to intubate was followed by cessation of breathing, thus necessitating immediate tracheotomy, which resulted in only two recoveries. Second, in three cases death occurred during the attempt to insert tube. Third, two children died during the choking spell. Fourth, in two cases the tube was drawn into a bronchus, and death of course resulted. Fifth, in two the insertion of the tube was followed by convulsions. Sixth, in two the introducer broke during the operation. "This list of accidents, all necessitating tracheotomy, it seems to me is a serious commentary upon the operation of intubation." (Number of operations not mentioned.)

In order to defend the operation of intubation which is recommended in this paper, as well as to gratify a sincere desire to

be of possible assistance to our Boston friends, I am forced to consider their chapter of accidents, and I think we shall see that it is not so serious a commentary upon the *operation* of intubation after all, for the moment we compare their experience with that of others we are surprised at the frequent necessity of immediate tracheotomy, almost once in every twenty cases. In my own experience that has occurred about once in forty cases. Other operators report even a less frequency. The doctor does not mention in his paper whether these operations are done by the house-officer, or if the visiting staff are sent for. I presume, however, as most of the cases brought in are in a state of urgent dyspnœa, that the operation is done by the house-doctor. If so, I respectfully suggest that the time of service of the house-staff be extended from two to six months, and I will warrant these accidents will not occur so often, or if that be not feasible, let the expected house-officers spend considerable time in the dead house, before operating.

In the second series of accidents three deaths occurred during attempts to insert. Death is liable to occur at any time during so grave a disease, particularly in exhausted patients. No. 3. Two children died during the choking spell. I am unable to understand what is meant by this, and therefore make no comments. No. 4. In two cases the tube was drawn into a bronchus. Manifestly a wrong sized tube was selected, or an improperly constructed tube used. In two cases convulsions followed insertion of tube. I sincerely hope that the doctor did not mean to insinuate that this symptom was caused by the tube. It strikes me that all should be pleased that the tubes were inserted before the convulsions occurred. No. 6. In two cases the introducer was broken during attempts at insertion of the tube; certainly an unjustifiable amount of force was used in these cases, for otherwise this accident could not have happened.

Dr. Lovett recommends intubation in children under two years of age. With this exception he advocates tracheotomy, despite the fact that of a series of 139 severe cases tracheotomized, only 11.5 per cent. recovered.

It is to be hoped that our Boston friends will not become entirely discouraged with intubation, but will continue the work, and I have little doubt that the proportionate number of recoveries will be greater. In comparison with the intubation statistics of Boston City Hospital I ask your attention to those of the Willard Parker Hospital, N. Y., where they have done 188 intubations and have had seventy-one recoveries—38 per cent. Tracheotomy unnecessary, that is so reported.

I shall speak briefly of my own cases, which number 145, with forty-four recoveries. Two of these operations were for causes other than true croup. One was for stenosis following carbolic acid poisoning; the other for spasm of glottis, in a patient who had a laryngeal growth. I have eliminated both of these cases from table for the reason stated My net report shows, of 143 cases, forty-two recoveries, or 29.3 per cent. recoveries. And there have been times when my percentage of recoveries has been 36 per cent. and this when my number of cases was over 100. The fact is these percentages are subject to great variation.

It has been stated many times, and I have no doubt it will be repeated at this meeting, that intubation is done occasionally when it is not absolutely necessary. I wish to state most positively that this has not been my experience. Physicians do not seek mechanical relief for their patients until it seems unsafe to allow the latter to remain longer without something which will insure enough air to preserve life. I have not intubated one of my own patients in over four years in such case, having successfully used calomel sublimation. These cases were seen early, treatment was promptly instituted and vigorously kept up, therefore stenosis did not at any time threaten life or necessitate mechanical relief. Moreover, I have many times been called to see cases that had previously been visited by surgeons who perform or favor tracheotomy, but who had in these instances perferred not to operate, because the chances of recovery were, in their opinion, almost nil, and I believe that intubation was done each time. On one such occasion I had the satisfaction of relieving the patient to such an extent that recovery resulted. It is not to be forgotten that during the past five years intubation has been generally an experimental operation with the profession, hence they have not selected the most favorable cases in which to try the new method. If there has been any selection in the matter at all, mine have been as a rule selected bad cases, and in selected bad places. I have operated in sub-cellars and garrets, in the most unfavorable hygienic surroundings to be found in this city. I have done a few cases where everything was at command to secure best results.

In selecting the method of treatment the rather peculiar distinction has been made, that when plenty of physicians, nurses, etc., can be retained, in other words, where money is, do tracheotomy. I wish to take most emphatic exception to this, as being a heartless discrimination against wealth.

Even in fatal cases there is a mighty satisfaction to be derived from the ability of the patients to communicate with those about

them and make known their wants, which circumstance adds somewhat, I think, to their chances of recovery.

To the circular letter sent out we received answers from 242 physicians in different parts of the country. The questions asked have been read. We received reports of 2,417 tracheotomies, showing 586 recoveries, or 24.2 per cent.; 5,546 intubations, with 1,691 recoveries, or 30.5 per cent. For comparison I think the best method of statement is, that according to these statistics, of every 100 cases operated on, six more were saved by intubation than by tracheotomy. If these statistics are of any value they must indicate that intubation is the preferable operation, especially as the recovery of the patients has fewer disagreeable features after this operation than after tracheotomy. Sometimes, and not so very infrequently, operators have trouble in getting rid of the tracheal tube, while the worst result that I have seen follow intubation has been a hoarse voice, which in one case lasted about two months. The scar might also be a great objection to tracheotomy, particularly in female patients. There are a good many points that I should like to mention, but fear that too much time has already been occupied. I should not like to be understood as believing that intubation has entirely superseded tracheotomy. I am sure there are cases that will be best treated by opening the trachea, particularly those cases where the pharynx is so swollen as to almost produce stenosis above the larynx. In such cases tracheotomy would be the most reasonable method; at the same time it would be almost useless because of the virulent systemic infection that is always present under these circumstances.

In closing I will repeat what I stated in a brief paper which was read before the Kings Co. Med. Ass'n a few years ago by me, that if I am called to treat a case of membranous croup (I believe all membranous croup to be diphtheria) I shall first sublime calomel. If stenosis of the larynx occurs I will intubate, and shall feel that I am giving my patient the best chances to get well.

THE COMPARATIVE VALUE OF TRACHEOTOMY AND INTUBATION FOR THE RELIEF OF ACUTE LARYNGEAL STENOSIS IN CHILDREN.

BY LEWIS S. PILCHER, M.D.

Of all the causes which may possibly determine dyspnœa of sufficient gravity to require surgical interference for its relief, the accumulation of a membraniform exudate upon the surface of the

laryngeal mucous lining is the most frequent. When the accumulation of such a laryngeal exudate is secondary to, or synchronous with, the same formation within the pharynx or upon the tonsils, early recognition of the cause of the laryngeal symptoms is made; when the earliest manifestation of the exudate is within the larynx, a not infrequent occurrence, the condition cannot be distinguished with certainty from that attending acute catarrhal laryngitis in its severer forms; it is only when, in the progress of the case, membraniform fragments become detached and are expectorated, or a membraniform exudate forms in the pharynx or fauces also or the presence of the exudate is demonstrated by incising the trachea, that an absolute diagnosis can be made. It is a common error to assume that severe and continuous dyspnœa arising in the course of acute inflammatory affections of the larynx is due to a membraniform exudate, and to denominate the case "membranous croup." This assumption has given rise to many erroneous conclusions as to the value of medicinal treatment in cases of so-called membranous croup, for the catarrhal inflammation is much more amenable to medicinal agents than is the exudative. As long, however, as any doubt about the exact character of the case exists, it is wiser, from the standpoint of treatment, to assume that the more intractable disease is present and to guide the treatment accordingly. Such a principle of action will lead to an earlier resort to surgical interference than would otherwise be the case.

The question of chief importance to the physician who is charged with the responsibility of the care of an acute, possibly exudative, laryngitis is, what degree of urgency must the suffocative symptoms attain to justify him in resorting to surgical measures for its relief? He certainly should not wait until the patient is *in extremis*, nor should he be precipitate in action, for spontaneous recovery from very threatening conditions is not rare. At the same time he is not to consider so much the idea as to whether the patient may not possibly recover under medicinal treatment alone as he is to decide whether his chances of recovery will be made greater by the operative procedure.

Loss of voice, frequent thin, metallic, muffled cough, difficult inspiration and prolonged expiration, the suprasternal and epigastric tissues sinking in at each inspiratory effort, great restlessness, suffusion of the face, with blueish lips—these are symptoms that, if continued, will produce speedy exhaustion; but in many cases of acute catarrhal laryngitis much of this respiratory difficulty is due to glottic spasm, which may be controlled by treatment or

may spontaneously disappear. If the severe symptoms of dyspnœa are intermittent, if they are lessened in severity and in frequency by treatment, if the general prostration is not great, and if the lethargy denoting advancing defective oxidation of the blood is not marked, surgical interference should be deferred.

When, on the other hand, the dyspnœa is continuous, and is gradually and steadily increasing despite treatment, especially when symptoms of exhaustion are developing—as shown by pallor of the face, with cold perspiration—and when the benumbing effect of defective aeration of the blood is producing its anæsthetic effect—as shown by tendency to lethargy replacing previous restlessness—then operation should be resorted to without further delay.

Nor should operation be delayed until the suffocative struggles are extreme, or the strength of the patient is exhausted by prolonged dyspnœa, or the narcosis of defective blood-oxygenation is far advanced. The progress of a case from the first inception of symptoms of hoarseness and slight embarrassment of respiration to the termination in death is usually rapid. Out of 1,760 cases of fatal croup in this city of Brooklyn, in children less than five years of age, the data concerning which were gathered and analysed by myself, 57 per cent. died within three days from the onset of the croupy symptoms, 159 died within twenty-four hours, and 22 died within twelve hours. Much time for deliberation is therefore not to be relied upon. As to contraindications to operation, there are none when the one indication—laryngeal stenosis to such a degree as to be a source of danger either directly or indirectly—is present.

Coexisting pneumonia, bronchitis, exhaustion, even apparent death, instead of contraindicating, do the more distinctly indicate it. These and other complications render the prognosis more grave, but do not justify a refusal to operate. The literature of the subject abounds in instances in which, despite the gravest complications, recovery has been secured.

In any given case the time for operative interference having arrived, what operation shall be done? Two resources are now at the command of the surgeon, (1.) the introduction of a suitable metallic tube into the laryngeal canal through the mouth without making any surgical wound—intubation as devised and perfected by O'Dwyer, (2.) the opening of the trachea below the larynx through an incision made in the neck and the establishment of a new channel for respiration by the use of a suitable tube inserted through the new opening thus made—tracheotomy.

In answering this question for myself, I do still give a positive

and marked preference to tracheotomy. While not unmindful of the good features of intubation, I have never felt myself justified in advising it when tracheotomy was practicable. My reasons for this faith and practice are as follows:

In the vast majority of instances in which acute stenosis of the larynx of sufficient degree to call for operative interference occurs in children, the stenosis is due to the accumulation within the larynx of a diphtheritic exudate. While it is not to be denied that other causes than diphtheria may produce, in rare instances, a laryngitis with pellicular exudate, nevertheless such cases occur so rarely in current experience, that in any general discussion they may be practically ignored. For over thirty years diphtheria has prevailed as an endemic in New York and Brooklyn. Notwithstanding all our recent additions to knowledge as regards its nature, its propagation and its treatment; notwithstanding the great advances in sanitation which have been made in these cities during the period in question, diphtheria still remains as one of the chief causes of death in these cities. In the city of Brooklyn, during the three months immediately preceding the preparation of this paper, 129 deaths from diphtheria were reported. The mortality from the same disease in New York is about twice that of Brooklyn. With such a widespread continuous dissemination of the diphtheritic poison in these communities, it is therefore impossible in any case of exudative laryngitis to absolutely exclude diphtheritic infection. In a study of the relations of exudative laryngitis to diphtheria in the city of Brooklyn during a period of some years, which I made some fifteen years ago, I was able to demonstrate a very remarkable relation between the two diseases, the rise and fall of the mortality line of the two diseases through the years presenting much uniformity. In addition to this, however, abundant personal clinical observation has often demonstrated to me that the symptoms tabulated by systematic writers for establishing a differential diagnosis between diphtheritic and non-diphtheritic laryngitis are entirely unreliable and their importance quite imaginary.

It has again and again occurred to me to see children who have rapidly developed extreme laryngeal stenosis without any preceding or concomitant symptoms of diphtheria, but in whom, their lives having been prolonged by tracheotomy, the development of all the general and local signs of diphtheria later became pronounced. Had the stenosis been unrelieved these cases would all have died without ever having developed the ordinary symptoms of diphtheria. For more than fifteen years therefore, I have claimed and taught that every case of exudative laryngitis is presumably diph-

theritic in its character, and that all cases should, from the first, receive the treatment appropriate to the diphtheritic condition.

I have said this much with relation to diphtheria and acute laryngeal stenosis in children because, to my mind, a recognition of their identity is a point of prime importance in influencing a choice as to operative measures for the relief of the stenosis. The laryngeal obstruction is but a part of a general infective disease, the effects of which are to be guarded against while the immediate local emergency is provided for. This, therefore, is the touchstone which I would use in determining the relative merit of the two procedures under discussion: Granted, that both equally relieve this stenosis of the larynx; which of the two is best adapted to assist the system in its struggles against the general infection by which it is threatened? The answer to this question involves the three points of blood aeration, of local cleansing or antisepsis and of general nutrition.

1. Blood aeration.—Abundant experience has shown that the intralaryngeal tube of O'Dwyer will usually admit with sufficient freedom all the air required for the purposes of respiration. Further, all the air which passes through it into the trachea is necessarily warm and moist, so that there is less danger of the accumulation within the trachea below it of clumps of inspissated secretion that may block it up, while also the narrowness of its lumen increases the expulsive force of the cough, as long as the lumen remains unobstructed. For the escape of membranous masses of any size from the trachea, it is not well adapted. In a very considerable proportion of cases of acute laryngeal stenosis, the presence of such masses within the trachea complicates the later course of the case and, not unfrequently, determines crises of great intensity as they become detached. Unfortunately, as long as the primary symptoms of acute stenosis dominate the scene, there is no means whereby a judgment can be formed as to the later presence or absence of such a complication, so that the judicious surgeon would, in all cases, be led to choose, other things being equal, that method of relief which would enable him the most readily to cope with this complication should it arise.

Such a crisis may also arise at the very moment of the introduction of the intralaryngeal tube, since masses of the exudate may be stripped up by it and pushed before it as it is introduced, sufficiently to immediately and absolutely block the trachea. That this danger is not merely theoretical is attested by many published cases in which immediate death has followed the introduction of the tube. It has been usual to say that in such cases tracheotomy

still remains as a possible resource by means of which the patient may yet be rescued from death. Practically, however, this is not so. It is too late for tracheotomy. The fatal result can rarely be averted when this accident has occured by the opening of the trachea, however expeditiously it may de done.

At this juncture it may not be amiss to call attention to the fact that in general tracheotomy done as a secondary resort in cases which have been primarily intubated has proven itself a very unsatisfactory procedure, the proportion of ultimate recoveries secured by it having been very small. Thus of 18 such cases subjected to secondary tracheotomy in the service of Thiersch at Leipsic, 1888, all died (Urban, Annals of Surgery, 1890, xii., p. 362); and of 57 such cases operated on in the Boston City Hospital (Lovett, Annals of Surgery 1892, xvi., 369) 52 died. When these results are compared with the average results which attend primary tracheotomy —thirty per cent. of recoveries—it is seen that the patients who, after having been intubated, develop later renewed dyspnœa calling for relief, form what may be called a selected class of bad cases in which operative interference of any kind promises but little, still in a small proportion even of such cases tracheotomy has still succeeded in preserving life. Nevertheless the surgeon who is choosing a means of relief for acute diphtheritic laryngeal stenosis must realize that he has practically but one opportunity of choice. Remembering this, and being awake to the possible requirements for the ready escape of exfoliating membrane later in the course of the case, most surgeons will feel it their duty at first to freely open the trachea from without at some point below the isthmus of the thyroid gland.

2. Local cleansing or antisepsis.—In diphtheria of the fauces, pharynx and nares the importance of local cleansing and antisepsis is well recognized; much of therapeutic effort is very properly directed toward preventing the accumulation of infective material in the affected localities and thus diminishing the septicæmia resulting from absorption of the products of its decomposition. A further danger of systemic infection exists in the fact that the inspired air must become more or less charged with offensive and septic material, if adequate disinfection of the upper respiratory tract is neglected, and thus a foul and contaminated air be continuously supplied to the air cells below, with in not a few cases, the additional burden of infective material of sufficient virulence to kindle septic inflammation of the lung tissue itself.

Whatever is true of the nares, and fauces and pharynx in respect of local sepsis is equally true of the larynx and trachea

when the seat of the diptheritic exudate. The surgeon who is in the habit of opening the trachea in these cases has many opportunities of seeing the accumulations of pultaceous material, muco-pus and membranous debris that form within the trachea and contaminate the respiratory current. One of the marked advantages that attends properly performed tracheotomy is the ready removal of this material, which often abundantly wells forth as soon as the trachea is incised. In the after days of such a case the ready escape of tracheal and bronchial secretions is facilitated by the external incision, and by the use of a tube with as large a lumen as the size of the trachea will easily admit. Through this tube the easy ingress to the lungs of abundant pure air also is assured, which may be warmed and moistened according to the judgment of the attendant. The air may be medicated by sprays or by admixture with oxygen gas ; the tracheal mucous membrane may be treated by instillations of medicated liquids or may be swabbed out with proper sponges if need be. These opportunities and advantages are not imaginary nor exceptional, but they are all of positive value, and of frequent resort to the surgeon who is fully equipped and ready for his work. They are of sufficient value in many cases, I am persuaded, to turn the trembling scale of fate toward life instead of death, and therefore are ever to be given serious consideration when a choice is to be made of an operative attempt to relieve acute laryngeal stenosis of diphtheritic origin. They must all be sacrificed if intubation is chosen.

3. General Nutrition.—Laryngeal diphtheria differs in no respect from other forms of diphtheria in the importance which attaches to feeding and stimulation in its management. The difficulties which attend the administration of proper food and stimulus are often great at best; the presence of a rigid metallic tube in the larynx, with its enlarged upper extremity projecting at the base of the epiglottis would presumably interfere still more with deglutition. According to O'Dwyer (Ref. H'db'k. Med. Sci., iv., p. 420, art. Intubation), if the mobility of the epiglottis be very much crippled by inflammatory thickening and the deposit of pseudo-membrane, the deglutition of fluids will be difficult with any form of tube in the larynx; if, on the contrary, the epiglottis be comparatively healthy, which is not uncommon, fluids will be swallowed with much greater ease. As a rule, when intubated patients can be induced to take solid or semi-solid food, it is swallowed with comparative ease from the beginning and the ability to swallow fluids increases with time. This, perhaps, is the most favorable presentation of the relations of intubation to

deglutition that can be made, and I have taken pleasure in giving it in the words of the author of the procedure. If I can form an opinion from the published experience in intubation that has come to my knowledge, I should judge that it is somewhat optimistic, and that in general the embarrassments of deglutition that attend the presence of a tube in the larynx are quite serious, and that they often form a decided difficulty in the after management of an intubated case. Certainly, difficulty of deglutition is a sufficiently pronounced and direct result of intubation to require to be fully taken into account by the surgeon when forming his judgment as to the procedure which will best enable him to avert the danger of diphtheria of the larynx.

On the other hand, deglutition is not interfered with by the presence of a cannula in the trachea introduced through an external incision.

In each of the three important particulars that have thus been rapidly reviewed, viz., blood aeration, local antisepsis, and general nutrition, it has seemed to appear that in each, important advantages in cases of acute diphtheritic stenosis of the larynx attach to the use of tubes inserted from without into the trachea through a wound in the neck over the use of tubes inserted into the larynx through the mouth and pharynx.

Fully realizing that it is quite possible for one who has become prepossessed by the claims of one line of procedure to be unable to give sufficient weight to the merits of a different procedure, I have for some years been waiting for the verdict which the accumulated experience of many workers might give as to whether the apparent advantages of tracheotomy which I have enumerated were imaginary or real. If as the result of actual practice intubation is found to secure as large a proportion of recoveries as have resulted by the older and bloody method, then the theoretical objections must be acknowledged as of no weight. It is difficult, however, to make a proper comparison of results owing to the possibilities of differences in the character of the cases submitted to the two different procedures. It is undeniable that intubation is much more likely to be resorted to in cases of less critical nature than would be tracheotomy. The suspicion of this fact is likely to vitiate for purposes of comparison all the general statistics that may be accumulated as to the results of intubation. I accept without question, however, the statistics of O'Dwyer, who states that he has only resorted to intubation as a last resort in cases which he was convinced would die if not relieved. Limiting himself to such cases, he wrote in 1888 that

nevertheless his recoveries amounted to 24 per cent. of the cases operated. Less favorable, however, has been the experience of the surgeons of the Boston City Hospital, who, out of 392 cases that were intubated, secured 20.41 per cent. of recoveries. Less favorable yet was the Leipsic experience, where out of 32 cases of intubation but 3 recovered.

These results are decidedly less favorable than those which have hitherto been secured by tracheotomy. In 1887 Lovett and Munroe compiled from all sources, excluding groups less than five in number, 21,853 cases of tracheotomy for croup, of whom 6,135 recovered, that is to say, 28 per cent. My own personal statistics give a better result yet, since out of 66 tracheotomies for diphtheritic croup, in all of which operation was resorted to only when the stenosis had become extreme, 22 recoveries have been secured, 33 1-3 per cent.

Dr. O'Dwyer, in the recent Academy of Medicine discussion, stated that out of his second and third hundred of intubation cases, 57 had recovered, a percentage of 28.5. One-fourth of these cases were under two years of age.

A similar statistical result will be reported this evening by Dr. McNaughton, who within four years has subjected 142 cases to intubation, of which 42, or 29.5 per cent., have recovered. The statistical argument becomes very much mixed by reason of such varying results. No reliable conclusion can be drawn from them as to the comparative merits of the different procedures, and one is driven back to that much more satisfactory ground for judgment to be found in a careful study into the pathological conditions to be combatted, the vital indications presented in individual cases and the relative perfection with which a proposed procedure will meet the one and fulfill the other. The more important points to be considered in such a study I have already passed in review. The conclusion seems to me to be a just one that intubation answers the indications for surgical interference when a diphtheritic exudate has formed within the larynx and trachea much less perfectly than does tracheotomy, and that therefore as a rule it should not be considered as a substitute for tracheotomy in such cases. I do not wish to gloss over in any degree the peculiar dangers and disadvantages that attach to tracheotomy. They have been thoroughly studied; they are well understood; in the great majority of cases they can be overcome. He who attempts the operation should have operative skill and familiarity with his tools; coolness, judgment and anatomical knowledge are essential; there is a tube to be kept clean; there is a wound to be

taken care of; the respiratory short circuit that has been established demands special precautions to make it harmless; the pressure effects of long retained cannulæ are to be guarded against, and in some cases granulomata or disorders of the laryngeal muscles render difficult the final suppression of the tube. These are all open, plainly-declared difficulties, which, if recognized and provided against, can be reduced to such a minimum as regards their prejudicial effects, as to be rendered of but little weight by the side of the great advantages in other respects which the external incision offers.

Nevertheless, it is undeniable that intubation has supplanted tracheotomy to a very considerable extent in this country during the past few years. The natural shrinking which mankind in general, including even members of the medical profession as a rule, have to the infliction of surgical wounds, has in the past, and will always continue to make the operation of tracheotomy the last resort which will be accepted for the relief of croup, except in institutions organized upon a surgical basis in which the operation is established as a matter of routine. In general I am persuaded that in future the very considerable prospect of relief and ultimate recovery which intubation can promise, although distinctly inferior to that held out by tracheotomy, will cause the non-bloody procedure to be chosen, the aversion to the surgical wound being the controlling reason for making the choice. A larger proportion of cases will receive operative help of some kind, and many lives will for that reason be saved, which, if the bloody operation were the only resource would otherwise have been allowed to perish. This is well illustrated by our Brooklyn experience. In this city I believe that it has been my lot to be called upon to do tracheotomy for the relief of croup in a considerable proportion of the cases that have sought surgical relief, and yet, during the seventeen years during which I have been operating, I have been called upon to do the operation but 66 times, notwithstanding the deaths from croup in our city during this period have amounted to between four and five hundred every year. On the other hand, during the past four years, Dr. McNaughton has been called upon to intubate 142 times. He has been instrumental in saving 42 lives in four years; I, but 22 in seventeen years, notwithstanding 33 1-3 per cent. of my cases recovered, and but 29 1-2 per cent. of his.

A very large proportion of croup cases occur among people whose home conditions are such as to make it impossible for the peculiar cares which tracheotomy requires to be adequately given

to the sufferer. Such cases, if they must be treated at home, have a better chance if subjected to intubation. Again, in general practice, all patients cannot command the skilled surgical attendance which is required if the full benefits of tracheotomy are to be realized. If one skilled in intubation is accessible for such a patient, intubation should be preferred.

The positive advantages which attach to tracheotomy over intubation, when the adjuncts required to obtain the full benefits of tracheotomy are available, are so great that I venture to urge now the importance, since diphtheria may be expected to continue to prevail in these cities indefinitely, of providing and fully equipping at conveniently placed stations, preferably in connection with already existing hospitals, isolation wards for the special reception and care of patienst suffering from laryngeal diphtheria. Such croup pavilions should be maintained at the public expense, just as our ambulances are at present, while the responsibility of manning and directing the work in them should be delegated to the hospitals in connection with which they are established. These pavilions should command the confidence of the medical profession and of the public, and to them should at once be brought every child who developes laryngeal diphtheria, whose home conditions are not such as to enable him to command every possible resource for relief. It is not too much to hope that, if such a plan was adopted in Brooklyn, a very considerable proportion of the 500 or more deaths from croup which occur annually in this city would be averted. I am inclined to think, also, that in such properly organized and adequately equipped institutions, tracheotomy would prove to be more efficient in saving life than would intubation.

THE ÆTIOLOGY AND THERAPEUTICS OF ALCOHOLIC INEBRIETY.

BY LEWIS D. MASON, M.D.

Read before the Kings County Medical Association, April, 1893.

Mr. President and Members of the Kings County Medical Association :

The "alcohol habit," "drink craze," "thirst for alcoholic liquors," oinomania, dipsomania, comprehended under the general title Inebriety, and for which the latter is a synonym, is oftentimes, if not always the symptom or outward and prominent

manifestation of diseased conditions, which antedate the alcoholic craving, and are its predisposing and exciting causes not only; but complications—which retard, and sometimes even prevent a cure.

In the popular, and too often in the professional mind, alcohol is regarded as the cause and the root of the whole evil of inebriety. We desire to assert that inebriety is frequently dependent upon causes with which alcohol has nothing to do. There is a neurotic craving—it may be congenital, it may be developed as the result of disease or accident. This craving demands the various forms of narcotic stimulants, those that first excite, then produce narcosis more or less complete. Alcohol fulfils this condition, is easily accessible, reasonably inexpensive, and is the one drug that meets a morbid craving that seems to be almost universal. But what about the origin of this craving, this abnormal desire for alcohol or other drugs.

We do not fail to recognize the deteriorating effects of alcohol manifested principally, at least, more pronouncedly upon the nervous system as seen in the various forms of insanity, and the various neuroses, neuritis, epilepsy, alcoholic paralysis. We also note the degenerative effects of alcohol on lung, liver, kidney or other organs and tissues of the body; or as a special poison in the same sense that lead, arsenic and tobacco produce their effects.

But beyond and back of the direct, deleterious effects of alcohol, functional or organic, upon the nervous system, or its alterative effect on tissue, or its direct poisonous effects, as far as alcohol may be regarded as a factor in the production of inebriety, we believe that we may practically exclude it from consideration as a prime factor, certainly the most important factor in the ætiology of inebriety.

We believe that the great majority of inebriates become so from necessity, not from choice, that there is a "vis a tergo" of heredity, environment and disease, that produces physical degeneracy and pushes them over and plunges them into inebriety.

With some of the various predisposing and exciting causes of inebriety we are reasonably familiar; these by their direct or reflex influence upon the cerebro-spinal axis produce or lead to habits of involuntary drunkenness or inebriety. The patient with fever craves and may drink water freely, excessively and injuriously. The diabetic is an aqua-maniac in a certain sense, but in neither case do we recognize the aqua-mania or water craving as the disease, but rather as proceeding from certain abnormal conditions which we readily recognize. So the liquor thirst is the result of morbid

conditions that produce an abnormal desire, which alcohol seems, temporarily at least, to satisfy.

Whether there are any definite lesions of the nervous system which produce dipsomania as other well-defined lesions of the nervous system have produced definite well-known symptoms, we are not prepared to say, but classify dipsomania with erotomania, kleptomania, pyromania, or other forms of periodical and impulsive insanity, which are marked by nerve storms or crises, which like tidal waves come suddenly, overwhelm the individual and plunge him into characteristic forms of dissipation, violence or crime.

The excessive use of alcohol, while it is oftentimes the cause of various diseases of the nervous system, and also a frequent cause of insanity, is also the precursor or initiatory symptom of certain diseases of the nervous system and also of insanity.

The paretic will crave and use alcohol in the earlier stages of his malady. The victim of nervous syphilis is addicted to it, more especially in the later stages when the nervous system becomes involved; about one in six of the several thousand inebriates that have passed under our observation at the Fort Hamilton institution were so affected.

I have reason to believe that many did not use alcohol in excess until the nervous symptoms of syphilis were developed. Any depressing, exhausting, or painful disease may produce the alcoholic craving, alcohol being sought for its stimulating properties. The neurasthenic craves alcohol, and it temporarily relieves the "nerve exhaustion" so common amongst the great army of neurotics.

Alcohol, moreover, is second only to opium, ether, or chloroform as an anæsthetic, indeed, has been used as a substitute for the latter. Hence, persons find experimentally, that alcohol relieves pain, and its use is carried to a harmful extent, its deleterious effects produced and inebriety established. Indeed, there is an analogy here between the opium and the alcohol habit. While the former almost invariably has its starting point as a pain relieving agent, the latter has also, not infrequently, the relieving of pain as its beginning.

It is possible that a healthy individual with good personal and family history, may use alcohol sociably or as a matter of custom, until the habit becomes firmly established.

The alcohol breaks down the constitution, invades and degenerates the nervous system, and thus, developes inebriety, because the alcoholic degenerations, or even functional disturbances of the nervous system are the very conditions under which inebriety is

established. We say this is possible, but we assert again that behind the large majority of inebriates will be found a defective family or personal history, not only complicating but causing the inebriety; retarding, oftentimes preventing a cure.

It can be thus seen that inebriety is but a symptom—a flag of distress hung out by the nervous system. As some one has aptly said, "neuralgia is the cry of a diseased nerve," so the "drink-craze" is the cry of the neurasthenic for a stimulant, of the pain-tortured nerve for an anæsthetic, of the victim of insomnia for a hypnotic.

It is but reasonable to infer then that the therapeutics of inebriety must be as varied as the causes that underlie and call it forth. Not any patient that applies for relief to the physician needs a more careful examination than does the inebriate. You may rest assured that there is some underlying cause, probably several, that must be removed if we would restore the inebriate to his former habits of sobriety. If he is found suffering from the later manifestations of syphilis he will need special treatment for this condition, especially if the nervous system is involved; a painful stricture of the urethra may require division.

Chronic malarial poisoning with its complicating disorder of stomach, liver and spleen, will demand special treatment. In a case on record the irritation of a tape-worm produced a tendency to the excessive use of alcohol, which tendency passed away when the worm was expelled.

In a word, the large majority of inebriates are diseased persons and that primarily and antecedent to their inebriety, which is appended to and aggravates their diseased condition.

Special diseases, therefore, require special treatment, irrespective of the inebriety, if we would cure the inebriate. In this connection we may ask, are there any drugs that we can substitute for alcohol that will take its place, and satisfy the inebriate, as a substitute for alcohol.

Opium and the salts of morphia will do so in a marked degree, although cocaine, chloral and the bromides have been so used.

The use of opium or morphia is not uncommon among inebriates who desire to "leave off alcohol." The inebriate, as a rule, is a congenital neurotic. From birth almost, he reaches out for some drug that will gratify or meet his neurotic craving. He will "ring the changes" on all drugs that affect the nervous system; he will try all things (drugs) and hold fast to that which is bad. The alcohol and the opium habit to the inebriate are convertible habits, and the inebriate, like a pendulum, will swing from alcohol to

opium; not infrequently the two habits are combined, as in the form of tinct. opii., constituting a mixed habit, in which the effects of both alcohol and opium have to be considered. Occasionally a case is presented in which morphia is used hypodermically, and the alcohol used in the usual manner. In cases where opium addiction is associated with the habitual use of alcohol, the opium habit is of paramount importance and the alcohol assumes a secondary place.

The fact that opium can substitute alcohol is the keynote to many vaunted secret cures, in the so-called "narcotic treatment" for alcohol. It simply substitutes one habit for another and as long as the victim is taking the so-called remedy he is reasonably comfortable. But I admit if the "narcotic treatment" was carefully practised, in judicious hands it might, in conjunction with such other remedial measures as would best eradicate the primal causes of the inebriety, prove useful, if not curative, in cases of inebriety.

Are there any drugs that are specifically beneficial for the treatment of inebriety as such? We would state that drugs that act directly as a stimulant to the nervous system are of value. Strychnia is a type of this class of drugs, and one of the best of its class.

Luton, of Rheims, Belgium, was the first to point out its value in alcoholism. Then the Russians used it largely and it was known as the "Russian treatment," and, finally, the Americans adopted its use in such cases.

Strychnia has proved serviceable as both abortive and curative in acute alcoholic delirium, as well as useful in the more chronic forms of alcoholism. It seems to be tolerated in such cases—in cases of alcoholic poisoning under normal conditions, we have no record of the value of strychnia as an antidote; interesting experiments might be made on the lower animals with the view of determining this point. Strychnia is an excellent cardiac tonic, and one of the best respiratory stimulants, and might be used in general medicine in cases in which alcohol is oftentimes prescribed.

Oxide of zinc, during the past twenty years, has been used with advantage in cases of chronic alcoholic intoxication. This drug was largely brought to the notice of the profession by Dr. W. Marcet, of London, who had an extensive hospital and dispensary practice, especially in diseases of the nervous system; and as he found zinc of value in various chronic disorders of the nervous system, he used it also in cases of chronic alcoholism. His observations published in a small work entitled, "Chronic Alcoholic

Intoxication," are an extremely valuable addition to the literature of alcoholism.

Quinine has been used more particularly in the later or convalescent period of the treatment of alcoholism.

The so-called "Red Cinchona Cure" for a time interested the public. Rational medicine does not recognize any special drug or specific remedy as a universal cure for inebriety, nor does clinical experience form any basis for such a claim. From the very nature of the case, such a remedy would be impossible. The ætiology of inebriety is dependent on such a variety of causes and its environments and complications so numerous that any one remedy could not fulfill all, or even meet the more important of these conditions. However valuable drugs may be to meet certain indications in the various conditions incident to inebriety, we believe that so far as the curative treatment of inebriety is concerned, drugs must assume a secondary place, valuable as they may be in their respective spheres.

In the treatment of the alcohol habit we place first: *Restraint, and seclusion in a special asylum for a definite period, and total abstinence during this period.*

In a few words, concisely expressed, this statement includes the plan now adopted by the leading asylums of this country and of Europe for the recovery of the inebriate. It involves restraint, (legal, if need be), seclusion, a special institution, in which all the latest and best methods of dealing with the inebriate are procurable, a sufficient period in which to apply these measures, and we need hardly add, a long period of total abstinence from all alcoholic liquors. We need hardly add that diet, rest, recreation, hygienic surroundings, and the exhibition of appropriate drugs are all included in the above plan.

The causes of degeneration being removed, the factors of regeneration being brought into action, new formation of nerve, muscle and tissue must supplant degenerated tissue, if haply organic disease has not resulted in irreparable injury.

We have hinted at an hysterical element in the history of inebriety. The inebriate, whatever may be his condition, is largely influenced by his surroundings, hence, as almost in no other disease, must we recognize the value of psycho-therapeutical agencies hitherto, if not altogether, used by the charlatan, but recently recognized and practised by leading neurologists, as of value in their specialty.

In the light of such an hysterical element in the clinical history of inebriety, we can readily account for the apparent success of the

so-called temperance movements that sweep over communities periodically and effect many apparent cures, or rather, in the language of the day, reformations. Such an element will also explain why after such a tidal wave of excitement, relapses take place oftentimes in large numbers, and the period of excitement is followed by a period of reaction.

The occurrence of relapses is readily accounted for by the fact that the stimulus of the period of excitement buoys up the inebriate for the time being, during which strong mental emotion is a powerful factor. He is keyed up, as it were, for the time, and sustained by a moral stimulus. When this is withdrawn, reaction, followed by corresponding depression, sets in, and the old method of stimulation is again imperatively demanded and yielded to.

Why some inebriates go through such a period of excitement and do not relapse, and why others do, can be accounted for by the fact that the former are in a reasonable degree of physical health, and are not burdened, dragged down and handicapped, either by disease that is non-alcoholic, or that is the result of alcoholic degeneration. The inebriates so affected are not influenced, or if at all, only temporarily, by the so-called "temperance revivals" that appear and disappear with almost stated regularity in large and small communities, and we must add do good, but only in the channel indicated.

It is also, operating through this hysterical feature of inebriety, that charlatanism may effect a temporary, possibly a permanent success in a certain class of cases.

A physician observed to me that he had visited many asylums for the cure of the inebriate, and that when the medical superintendents were men of strong will power and personal magnetism, as he expressed it, more cures were effected than when the reverse was true.

When the inebriety is due largely to neurasthenia, or in cases where the hysterical element largely preponderates, we believe psycho-therapeutical agencies, or even those that appeal to purely mental conditions, will be of service, but they will not cure a cirrhosed liver, lung, or kidney, or remove the physical causes upon which the inebriety may depend. In addition to those measures that appeal to the higher moral nature, there ought also to be combined such as meet certain intelligent wants. To this end all reasonable amusements, entertainments, and especially such occupations as will interest the person and keep him busy, should be encouraged, if not made compulsory.

Incidentally I may mention hypnotism as having been used especially by French physicians, with some benefit in cases of chronic alcoholism. I have no data to give and have not had any personal experience with it.

We do not pretend in the confined limits of a single paper to have done justice to the topic which you have assigned to me, "The Ætiology and Therapeutics of Inebriety," we have endeavored only to give a few salient points on this all-important subject.

The therapeutics of inebriety is a new field as yet not fairly occupied, but we believe that the only true road to successful treatment will be along the lines we have indicated. That is, a knowledge of the underlying causes and the use of such therapeutic agencies as will best remove these.

"Tolle Causam," the legend emblazoned on the standard of rational medicine, the watch-word of every true physician and surgeon, should guide the specialist and direct his methods in his endeavors to cure the inebriate.

THE INFECTIOUS CHARACTER OF CROUPOUS PNEUMONIA OR PNEUMONIC FEVER.

BY R. F. MACFARLANE, M. D.,
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Read before the Queens County Medical Society.

The ætiology of croupous pneumonia is thought by many to be explained by the statement that it is a local inflammatory disease; and they are therefore opposed to believers in its infectious character and advance the reasons as substantially set forth.

Exposure to cold is the prime factor in its development, the male sex being more predisposed than the female, and the children of either sex equally liable. There are three periods of life most prone, viz., early childhood, from twenty to forty and from sixty upwards, during which latter period ninety per cent. of all deaths are due to pneumonia.

When females are obliged to work exposed as are men there is no disproportion in the number attacked. Any physician will cite many cases of pneumonia following exposure within a few hours or days. There are no prodromata of a certain and uniform character as in infectious diseases. There is no positively known

period of incubation. No certain thermal wave. No cutaneous phenomena. Lobar pneumonia is often caused by traumatism of the thoracic parietes, by foreign bodies in the bronchi, by inhalation of steam and noxious gases, and this has been verified by many autopsies.

Notwithstanding the assertions of the believers in the theory of infection in pneumonia and the part they ascribe to the influence of microörganisms in the causation of that disease, they do not deny that cold has an influence in its production. They are at war as to which of many germs is the exciting agent, some bacteriologists claiming that it is a certain coccus, as Fränkel, Weichselbaum, Koch, Pasteur, and others. Some that it is a coccus or bacillus isolated by Friedlander, Frobenius, and described by Flügge, Schau, Rippert and others. Netter says that there is a coccus or bacillus generally present in the mouths of healthy men, which will produce pneumonic fever when injected into the tissues of certain animals. It is indubitable that the pneumo-coccus of Fränkel has a wide range, and may be considered an ubiquitous germ, having been found in many suffering from acute general diseases who never had pneumonia.

While they do not deny the agency of microörganic life in the ætiology of acute general diseases, disbelievers in the infective nature of pneumonia will not credit the part assigned to bacteria in the causation of pneumonia until more light is shed upon the part which they and their products have in this disease, and this we will endeavor to do as briefly as possible.

From the earliest times until the eighteenth century, broncho-or lobular pneumonia and croupous or lobar pneumonia—pneumonic fever—were held to be one and the same disease, but when the differential diagnosis between them was made clear, observers generally were satisfied that the former affection was due to a local inflammation, but many were not so easily convinced as to the ætiology of the latter. They knew that exposure was influential in a great many cases, but exposure would not fit into all, so that Kühn, Jurgensen and others published their doubts, pointing out the sometimes epidemic character of pneumonia, and ascribed its onset to some virus or *materies morbi* which assailed the economy, entering it probably by inhalation.

From the evidence which has gradually accumulated from hosts of writers, it appears to be very generally believed to be an acute infectious disease, occasionally epidemic, zymotic in that it is due to a vegetable organism which proliferates with wonderful rapidity,

producing a toxic ptomaine which causes the varied phenomena attendant upon this disease.

Exposure to cold certainly has some influence in many cases of pneumonia, but it is certainly not the exciting cause, for many persons mistake the initiatory rigor for exposure to cold, and many others are attacked without any exposure whatever. Many first experience the chill at night in bed without any history of exposure. On the other hand persons continually undergo prolonged exposure to intense cold without contracting the disease, and in the Arctic regions it is comparatively unknown, but in the Southern States it is quite frequently epidemic. The majority of housewives of the poorer classes are exposed as much as men, but the percentage is in favor of the male sex.

The pneumonic rate does not increase by low temperature in persons under sixty years, and most of our cases occur in spring, not in winter.

Prodromata.—As in other acute general diseases, in pneumonia there are present in many cases distinct premonitory symptoms, which if we seek to analyze we find ourselves confronted by considerable difficulty, for seldom do we find in any two patients symptoms exactly alike. In all infectious diseases there is present such a similarity of prodromata that we often doubt whether we have a case of typhoid, variola, malarial fever, dysentery, acute menigitis, acute myelitis or pneumonic fever. Some complain of gastro-intestinal disturbance,[1] others of cerebral disorders and mental depression,[2] some of dyspnœa, cough or pain in the chest, or of coryza and sneezing. Lassitude and weakness are often mentioned as well as chilliness and feverishness. Many complain of pain in the head, back and limbs, and anæmia, sallowness and jaundice are not uncommon. Peculiar facies are present, flushed cheeks and herpes labialis, and like the acute exanthemata marked cerebral symptoms, diaphoresis and sudamina. The presence so early of coma in the adult and convulsions in infancy point to infection.

Many other abnormalities are complained of and more particularly by the aged, as experienced premonitorily, until after a more or less severe chill, the temperature rises and the disease is fully established[3].

[1] Fenwick, of 500 cases 86 commenced with severe gastro-intestinal attack.

[2] Many are hopeless of recovery from the first.

[3] Pause, Lungen entzündung, Leipzig, 1861.

From the above it would appear that the prodromata are as pronounced as in typhoid[4] and other fevers, and the period of incubation as clearly defined.

So that with or without noticeable prodromata lobar pneumonia is usually established after a distinct rigor, and a person of robust health may be so attacked with or without exposure to cold, but those depressed in vitality are most prone to the disease, and oftener in other seasons of the year than winter.

It is indubitable that some cases abort as in other fevers, but there is, as a rule, a period of hyperpyrexia, and the disease pursues a similar course both in childhood and in adult life. Now if it were due to a local inflammation, the rigor would be repeated when the disease advanced from one lobe to another or from one lung to another.

Again, if it were a local inflammatory process there would be some relation between the amount of lung tissue implicated and the thermal intensity, but this is not the case. Pneumonia confined to one lobe will give as high a temperature as if both were involved.

Another similarity it bears to other infectious diseases is its nervous phenomena, and the complications which cause the most fear at the crisis are those which diminish the nerve force causing cardiac paralysis.[5]

Predisposition.—No one will deny that during the course of rheot fiebrile disturbances and during epidemics of the same there is greater predisposition to pneumonia; thus in typhoid fever, diphtheria, measles, erysipelas, small-pox, cerebro-meningitis, otitis-media-acuta, la grippe, and chronic desquamative nephritis there is always an element of apprehension as to whether the patient will escape pneumonia.

Bad hygienic surroundings surely predispose and many writers for this reason class pneumonia among the miasmatic-contagious diseases.[5] Bad sanitary conditions such as absent or defective sewage, bad plumbing permitting the escape of foul sludge gases from drains, cess-pools and privies into dwellings, imperfect ventilation, crowded prisons, barracks, hospitals and transport ships predispose, and epidemics have often been reported in localities the houses of which were contiguous to each other under such sanitation. Again, increase of population always increases the pneumonic rate as in other infectious diseases.

[4] In typhoid there is often no premonition.

[5] Loomis, Theory and Practice, p. 82. Loomis and Sturgis class pneumonia between specific infectious diseases and local inflammation.

[6] Cohnheim, p. 380, vol. 1.

Wolff (1880) mentions an epidemic which occurred in a Bavarian prison, in which 180 persons were attacked. Pneumo-cocci were found in the stuffing of the mattrasses; these were cultivated and caused pneumonia in the animals inoculated. Sokaloff, Year Book, 1892, from his experience of 2,360 cases, writes that he cannot but regard pneumonia as of an infective nature and transmissible from patient to patient in hospitals like erysipelas, and especially fatal among the typhoid patients. He advocates special wards for pneumonia patients. Germain See writes in the same vein, and so does Nothnagel. Oliver reports several cases in neighboring families evidently due to infection. In 1891 a singularly fatal epidemic of pneumonia occurred at Scotter, England, the form being so virulent that over fifty per cent. died. Low, in the same year, reported a severe epidemic in which many persons were attacked in houses adjoining each other.[7]

It was remarked that in this as in other infectious diseases there is often present a parenchymatous nephritis as a complication, and thirty-five per cent. of all cases have albuminuria.

With respect to that form of pneumonia which follows traumatism of the chest, the presence of foreign bodies in the bronchi, the inhalation of gases, etc., there is no doubt that pneumo-cocci have been detected in the exudation of the acini as they have been found in suppurative process elsewhere in the body. but such pneumonia is due to mechanical obstruction of the bronchi and alveoli, which are filled with epithelium, pus corpuscles, etc., and not with a fibrinous exudation which coagulates as in lobar pneumonia.

Russell, "United States Sanitary Reports," considers it a contagious, infectious disease, and gives copious statistics supporting his views. In the army, men occupying the same tents with pneumonic patients were liable to contract that disease.

H. F. Walker, before the Practitioners' Society, 1891, in a well digested thesis, classed pneumonic fever among the contagious diseases. He recommended isolation, disinfection of the sputa and other active measures to prevent the exposure of healthy members of families. Minot mentions a case in which a nurse contracted this disease from a sick child, although the occurrence of pneumonia in several persons in one family suggests contagion, it is not generally believed to be transmissible from one to another, but it is more than probable that the atmosphere is laden with micro-organisms, which invade a dwelling and under certain defective atmospheric conditions find a lodgement in the body, proliferating

[7] British Medical Journal, Jan., 1893.

like a ferment, and communicating the disease to those who are susceptible, finding an entrance in all probability by the air passages and penetrating to the alveoli of the lungs.

H. Hun, in an able paper, expresses the opinion that the same microörganism which causes pneumonia causes cerebro-spinal meningitis and marks out the intimate relationship between the two diseases, clinically, either disease oftentimes graduating into the other.

Bacteriology.—The infectious and epidemic character of pneumonia having been so comprehensively studied by competent observers, they were led to suspect that as in other infectious diseases this was due to microörganisms, and pathologists and bacteriologists have confirmed the belief by the discovery of minute organisms, which if taken from the sputa of pneumonic patients or from the exudation of the alveoli of the lungs will produce the disease by inoculation upon susceptible animals. That there is more than one such organism which will cause pneumonia is certain. The bacillus or coccus of Friedländer, discovered in 1883, has been isolated and cultivated by many and the pure cultures cause pneumonic fever when inoculated into rabbits with accompanying infiltration. Frobenius, Weichselbaum, Pasteur, Koch, Ribbert, Ziehll Fränkel, Passett Hüppe, and hundreds of others have since then been active in the field of research.

The coccus Fränkel has also been found on post-mortem exmination in the exudation of the air vesicles, in cover glass preparations of the juice and in sections of the lung. It was also found in pleuritic effusion and in the pericardial also. Friedländer found cocci in the blood of pneumonic patient obtained by cupping. Netter has shown that from patients who have had pneumonia, the coccus may be obtained for an extremely long time in the saliva, and Goldenberg found it in fifty per cent. of the cases he examined. Weichselbaum found the pneumo-coccus in seventy-eight of eighty-three observations, and conveyed the disease to rabbits by inoculation.[9] Ribbert and Ziehl discovered these bacteria in rusty sputum, and their inoculation experiments have been much more satisfactory for pneumonia than in typhoid fever; in the latter the inoculation of guinea-pigs does not produce the characterizing lesion, but the inoculation of pneumo-cocci on rabbits always causes pneumonic infiltrate.

The species or forms isolated by Friedländer are called by him cocci, but they are really short rods with rounded ends. For this reason Flügge classes them among the bacilli, and explains that

[9] Year Book, 1892.

in this species they in the early stages, appear only as oval cells, and under active proliferation the youthful cells predominate, but simultaneously the older cells presenting the rod-like form appear, justifying us in classing them among the bacilli. Preparations obtained from the animal body of the coccus Fränkel and the bacillus Friedländer, but not those obtained by cultivation of either form, are surrounded by a capsule i. e., each bacillus or coccus is imbedded in a gelatinous limiting membrane which is readily seen if stained with fuchsine.

Cultivations are made very easily on many different media. Gelatine plates show white points in twenty-four hours, which with a high power give round discs with granular nuclei.

Lipari, 1893, has just finished a series of experiments illustrating the part played by cold in the causation of pneumonia, and finds that the endo-tracheal injection of pneumonic sputa or pleuritic exudation from animals which have died from pneumo-coccus gives negative results unless the animals are exposed to cold. Of eight animals so exposed six died with pneumonic infiltration.[10]

The active agents in the causation of pneumonia are the coccus Fränkel and the bacillus Friedländer; they have both been found by competent observers in cases of pneumonia, and the former is always present.

These microörganisms are capable of infinite proliferation under favorable circumstances if they find a lodgement within the body, and have wonderful migratory powers, having been found in almost all the organs, fluids and tissues, but not till Brieger discovered the influence that in infectious diseases is exercised by the ptomaines of specific microörganisms upon the condition of the blood has the relationship between the symptoms of this disease been understood.

From the pure culture of the pneumonic coccus there was isolated by Brieger a toxic ptomaine which caused pneumonia when injected into rabbits; and this is the special poison of pneumonic fever. That the direct action of the microörganisms causes the fibrinous exudation in the acini is very probable, and that imperfect aeration of the blood causes much of the severe constitutional disturbance is possible, but the graver symptoms are due to the toxine-ptomaine which is the product of these microörganisms.

Immunity.—Klemperer and Klemperer in their exhaustive study of true croupous pneumonia have come to the following conclusions as to immunity:

[10] British Med. Journal, Synposis, 1893.

First.—Immunity against pneumonia is bestowed upon animals susceptible to that disease by introducing into the tissues the sterilized products of the growth of the pneumo-coccus, but this immunity is in general very evanescent.

Second.—Such immunity induced by the injection of bacterial products is not manifested immediately, fourteen days elapsing before the simple products produce their effects, but if this sterilized material be heated to 107.5° F. for three or four days, or to 140° F. for two hours, the injections will induce immunity within four days.

Third.—The warmed injections cause a brief reaction; the cold induces a long continued febrile state, at the termination of which the animal becomes immune.

Fourth.—They find further that the blood serum of a "protected" animal injected into the veins of a susceptible animal, confers immediate immunity. There is no delay. So that there must be present in the blood serum of an immune animal a substance not present in the sterilized culture fluids of the pneumo-coccus, which goes to prove that the bacterial products do not *per se* bring about immunity but through the febrile reaction, some other body or quality having immunity—conferring properties being gradually developed.

Fifth.—This substance has curative properties acting not so much upon the minute organisms—for in its presence they still continue to proliferate—but upon the toxines which are their products.

Sixth.—Hence the Klemperers distinguish between two proteids, pneumotoxine, which can be isolated from cultures of the coccus, and the anti-pneumotoxine which is obtained from blood serum of immunized animals.[11]

Tehistowitch writes that where the virus is not very powerful an increase of the white corpuscles of the blood is observed, but when the virus is very strong there is a diminution in the leucocytes.

There is still a wide gap separating the phagocytosists and the humorals, and whether the arrest of the disease or the immunity from it is due to the triumph of the leucocytes or the blood serum over the microörganism is still *sub judice*.

Conclusion.—As erysipelas develops in the lymphatic channels of the epidermis, typhoid and cholera localize in the intestine, pneumonia is limited to the lungs; there the invasion of the exciting agents of pneumonia begins, and as it is certain that corpuscular

[11] British Med. Journal, March 5, 1892.

matter can pass from the acini to the lymph channels of the lungs in pneumonia, it penetrates with facility into the fluids of the body.

Pneumonia is a disease due to infection, but whether purely contagious or miasmatic is a question. It is beyond doubt due to microörganisms and must be classed with cerebro-spinal meningitis, erysipelas, mumps, influenza and rheumatic fever.

REPORT OF ONE HUNDRED AND NINE OPERATIONS, PERFORMED AT THE LONG ISLAND COLLEGE HOSPITAL DURING THE REGULAR SESSION OF 1892–3.

BY J. S. WIGHT, M.D.,

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(*Continued from page 426.*)

CASE LXIII.—J. B., a machinist, thirty-eight years of age, had been disabled by hæmorrhoids for several months, and came to obtain relief. An operation was performed, December 21, 1892. The hæmorrhoids were seized with forceps, and then cut off with the electro-cautery knife. There was slight after-hæmorrhage, which was controlled by the further use of the electro-cautery. The patient made a rapid recovery. The usual operation performed by me is ligation. It is not my purpose to condemn anyone's operation, yet I incline to advise against injecting piles for the purpose of curing them.

CASE LXIV.—W. R., aged fifteen years, had a lacerated wound of the right hand, caused by a sharp piece of glass penetrating it at the bifurcation of the ulnar artery. December 26, 1892, I applied suture-ligatures at the seat of the injury. The secondary hæmorrhage returned on the second day after. The ulnar nerve was implicated, and further operation in the wound did not seem to be advisable. On December 28, 1892, I ligated the brachial artery in the middle third. Subsequently there were two or three times when considerable hæmorrhage occurred at the seat of the injury. Then the radial pulse was good, but I could not detect any pulsation in the ulnar artery above the wrist. This patient was pale and not well nourished; he seemed to be prone to hæmorrhage.

His recovery was slow, and the ulnar nerve did not fully regain its functions. The seat of the wound was sensitive and tender.

Case LXV.—C. G., a married woman, twenty-two years of age, December 28, 1892, was shot in the left breast and the upper part of the left thigh. Dr. Rae removed the ball from the soft parts over the ribs on the left side. The wound did not penetrate the thoracic cavity. The wound on the front of the thigh was about two and one-half inches below Poupart's ligament. I made an exploratory incision, and found that the ball had passed just external to the femoral artery on its way upward and backward. It did not seem practicable to continue the exploration. The disinfection was made as perfect as possible, and the wound was dressed aseptically. Septic fever developed, and it was not controlled by medication. January 9, 1893, the inner aspect of the thigh was opened, and a considerable quantity of sero-purulent fluid oozed out. The patient died January 13, 1893.

Case LXVI.—J. S, an engineer, thirty-nine years of age, had a compound fracture of the end bone of the right thumb. Operation, December 29, 1892. It was possible to disarticulate the end-bone, and cover the distal end of the second bone with good flaps, thus carrying out the rule to save as much of the thumb as possible for an opponent to the fingers.

Case LXVII.—B. K., work-girl, eighteen years of age, had suffered for some months with obscure pains in the abdomen. I saw her with her family physician, Dr. McManus, and confirmed his diagnosis of appendicitis. As her surroundings were very unfavorable, we had her taken to the College Hospital for operation. The prognosis was very bad. I operated December 30, 1892, performing laparotomy along the right side of the rectus muscle. I came down upon an abscess, partly saculated, partly diffuse, with the folds of intestine extensively adherent to each other and to the abdominal wall, the pus having found its way into the peritoneal cavity. The pus was evacuated as far as possible, and then all the parts were irrigated with a warmer aseptic fluid. The drainage was made as good as the circumstances would permit; and the patient was sustained by such means as are appropriate in such cases. After the operation the shock continued. She seemed to suffer in spite of all that could be done for her, not so much from pain, as from an indefinable and severe distress. It was a case of diffuse suppurative appendicitis, in which general

sepsis had taken place, probably from the pus finding its way into the peritoneal cavity. Expectant treatment would have ended in death; the operation did not reach any better result. Yet it seems to be best to operate on such cases. If the abscess had not been diffuse an operation would have been more likely to bring relief.

Case LXVIII.—K. K., a four-year-old girl, January 18, 1893, was playing on the floor with some other children, when a pistol, they had in their possession, went off, shooting her in the left side. She was brought to the College Hospital, where an examination showed that there was a penetrating wound of both the chest and the abdomen. An incision at the seat of entrance of the ball showed that the seventh rib had been perforated. I excised about an inch and a half of the rib where it had been perforated, and found that the ball had passed through the edge of the left lung, and then gone on through the diaphragm into the abdomen. There was, on exploration of the abdominal cavity, no evidence of any wound of the viscera, there being no blood to remove. It appeared as if the ball had largely spent its force in perforating the rib, and that it had become quite harmless on entering the abdominal cavity. The air passed in and out the opening during respiration. The intercostal arteries bled freely, but the hæmorrhage was controlled by catch-forceps. A drainage tube was put into the abdominal cavity, and another into the lung; the external ends of both were stitched to the integument. The drainage tubes were removed January 14, 1893. The abdominal wound closed in a short time, but the wound in the lung did not heal completely for a number of weeks. The patient finally recovered and was taken from the hospital in good condition.

Case LXIX.—R. E., a laborer, thirty-five years of age, came to the hospital January 2, 1893, having fallen and received a wound of the face and forehead; he had a depressed fracture at base of the skull on the right side just posterior to the orbit. An exploratory incision showed only an indentation of the outer table of the skull. The wound was closed and repaired by primary union. The patient left the hospital in a few days in good condition.

Case LXX.—O. H., a sailor, twenty-seven years of age, broke his left patella transversely, and was treated in the ordinary way, recovering with fibrous union. About the middle of December, 1892, he fell and refractured his patella, and came into the College Hospital with his knee much swollen from extravasated blood. I

had his knee bandaged in the figure-of-8 fashion, and put his limb upon my patella-splint. I operated on his patella January 4, 1893. Over the centre of the patella a longitudinal incision was made long enough to permit sawing off the broken ends of the fragments. The fragments were drilled through, the lower one from below, upward and backward; the upper one from above, downward and backward; the wire—after being inserted—came just in front of the condyloid groove of the femur; the cut surfaces of bone were accurately adjusted; the wire was twisted in front; a drainage tube was passed through the flaps on either side; the flaps were sutured over the "united" fragments, and the dressings were applied; then the limb was placed upon my patella splint. The next day I removed the drainage tube, and reapplied the dressing. On the 15th of January everything was going on favorably. January 16th the sutures were removed and there is good motion of the knee-joint.

In about six weeks this patient was discharged from the hospital in good condition. He went out on the icy streets a few days after that, and fell, breaking his patella nearly in the same place as before. He returned to the hospital, and I operated again. The fractured surfaces only required careful scraping to make them fit well. The wire suture was still in, but had become brittle from twisting it, and from pulling on it at the time of refracture. I put in a new wire, and got primary union of the soft parts as well as speedy union of the fragments.

Case LXXI.—J. McD., a sailor, thirty-two years of age, came into the hospital January 4, 1893, with a large inguinal hernia of the right side tightly strangulated. The hernia was irreducible, and of long standing. An immediate operation was necessary. The usual incision was made over the neck of the sac, which was opened. Even then the hernia was irreducible. Upon examination the sac contained the caput coli and the appendix, which was nearly four inches in length and unusually large. A considerable part of the ileum accompanied the caput coli. The appendix had a mesentery, which was removed after ligation. The appendix was amputated; silk sutures were used to invaginate the serous membrane. The adhesions of the contents of the sac were dissected through, and then the reduction could not be made. And the reduction was only accomplished after cutting the abdominal wall upward about two inches, and having the foot of the table elevated materially. Then the stump of the appendix presented at the opening. The hernial sac and the structures of the sperm-

atic cord were interwoven in inextricable confusion, so I brought down the sac and ligated it at the neck including the structures of the cord. Profuse hæmorrhage soon occurred, and it was found to come from the cord, which was seized and a ligature applied. The incision in the abdominal wall was closed with strong silk sutures after aseptic irrigation. This did well in every respect. I removed the sutures on the 15th of January. They had "cut in" to a considerable extent. On the 16th of January the patient got out of bed and went to the "water closet." Then he kept in bed for several days, and the tissue in the wound became firmer from day to day. In a little time he was allowed to get up and go about the ward, and finally left the hospital with a radical cure.

Case LXXII.—G. G., a laborer, thirty-five years of age, had painful stumps of the second, third and fourth toes of the left foot. The ends of the stumps projected upward, and were pressed upon by the boot. Dr. Cochran and the house surgeon operated, disarticulating the toe-stumps. The wound was completely closed, and primary union followed.

Case LXXIII.—H. M., a girl eleven years of age, while at play, fell upon her left hand, and was brought to the hospital by her father. She had a "bent fracture" of both bones of the left forearm. The lower ends of the radius and ulna were bent backward nearly forty-five degrees. The lower radial fragment was about seven-eighths of an inch in length. The lower ulnar fragment was about five-eighths of an inch in length. I made the reduction by putting my thumbs upon the angle of displacement, and applied my fingers against the dorsal aspect of the parts above and below, and then using considerable force. There was some crepitus when the bones were straightened. The parts were put in a trough-splint made of wire cloth.

Case LXXIV.—M. D., a colored girl, four years of age, had triple displacement of the left leg from tubercular disease of the knee-joint. On January 11, 1893, I exsected the knee, and found the femoral condyles containing suppurating cavities. The lower end of the femur was cut off, as well as the upper end of the tibia. The cut ends were adjusted and nailed together. The limb was put on double inclined plane, having a large obtuse angle, in order that the limb might be slightly bent when the bones were united. On the evening of the day of operation, the patient pulled and kicked the dressings nearly off, so that they had

to be readjusted. This operation was completed in twenty minutes. It took nearly three months to obtain bony union of the femur and tibia.

Case LXXV.—J. R., a laborer, twenty-three years of age, had his right leg amputated at the knee-joint for osteo-sarcoma of the leg. The operation was performed at my Clinic of last year. He came into the hospital for the removal of a sarcomatous growth from the back part of his thigh about four inches above the end of the stump. I operated January 11, 1893. The enucleation of the growth from the nerve, artery and muscles was easy enough. The wound was packed with aseptic gauze. The patient was given the bromide of arsenic in one-fortieth grain doses three times a day. At the time of the previous operation the bromide of arsenic was given. When he had improved materially, he refused to take the remedy, and after that he did not do as well. He did not keep up the treatment. In May, 1893, I saw this patient, and he had a large, rapidly growing osteo-sarcoma of the sacrum.

Case LXXVI.—Wm. W., forty years of age, was operated upon at last year's Clinic for an abscess of the left mastoid process. The operation was incision and linear-osteotomy. A fistula had been left. He returned for another operation. A free incision was made, and the scar was scarified. This patient left the hospital the next day, and has not been heard of since.

Case LXXVII.—C. L., a laborer, twenty-four years of age, while "tying up" bags in a factory, November 23, 1892, cut the little finger of his left hand, and suffered from septic inflammation which resulted in necrosis and anchylosis. The finger was amputated, leaving the head of the metacarpal bone. The wound was closed completely. There was primary union, giving a good result. The operation was performed on the 12th of January, 1893.

Case LXXVIII.—J. W., a nine-year-old schoolboy, was run over by a truck January 16, 1893, and had the leg and the knee of the right side crushed, and also had a compound, comminuted fracture of the left thigh in the middle third. He was brought to the College Hospital in a state of extreme shock. I made a rapid amputation of the right thigh in the lower third, as low down as possible, and, after ligation of the arteries and excision of the sciatic nerve, a deep, continuous suture was applied so as to pre-

vent oozing. The left thigh and its wound were disinfected, and a long, straight splint applied on the outside. No traction was used, for the other side would only have a stump, and the repair would no doubt be speedier than under an attempt to remove the shortening. The operation added to the shock, which continued for three days. This patient did not get out of bed for nearly six weeks. The left limb shortened; how much is unknown.

Case LXXIX.—J. C., a fireman on a tug, thirty-two years of age, had his left foot burned from falling between the boiler and the side of the boat; and, after some weeks, the fifth metatarsal bone and the bones of little toe suffered from necrosis. On the 18th of January, 1893, I removed the dead bones, and then the repair was rapidly completed, leaving the man a useful foot. The rule in such cases is: Do not operate until the furrow of separation between the living and dead parts is well established. I have often applied this rule to advantage in cases of frost-bite, as well as those of burn.

Case LXXX.—H. B., a sixteen-months-old girl, had a tumor on the back over right scapula. It had been noticed about four weeks by the mother. On removal it was found to be a vascular cyst, resembling a cystic sarcoma. The hæmorrhage was profuse, but was arrested by means of suture-ligatures and packing the operation-wound with aseptic gauze. The growth began to recur, but the new tissue went away after the administration of bromide of arsenic, in one-hundredth grain doses.

Case LXXXI.—J. S., sailor, forty years of age, had a compound comminuted fracture of the bones of the right middle-finger, followed by necrosis and total disability of the injured finger, which was in the way of the other fingers. On January 20, 1893, the finger was disarticulated by the oval method. The operation wound was packed with aseptic gauze, and when granulation took place the flaps were brought together, so that union by "second intention" took place.

Case LXXXII.—H. S., machinist, twenty-eight years of age, caught the ends of the first, second and third fingers of the right hand, between the cog-wheels of moving machinery, and had compound fractures of their end-bones. On the 20th of January,

1893, the base of each one of these end-bones was extended, so as to save the tips of the fingers. The middle finger-bone was made, as it were, longer by so much of the end-bone as was left, and the normal tactile surfaces of the injured fingers were preserved, making the patient a more useful hand than he would have had with an amputation.

Case LXXXIII.—T. S., a lad, thirteen years of age, Jan. 20, 1893, had fallen from a height, and struck on his right foot, driving the astragalus upward so as to produce a vertical posture of the lower end of the tibia. The ankle was enlarged, and the foot was everted, there being a fracture of the fibula, about three inches from its lower end. After anæsthesia, I succeeded in removing much of the deformity by means of forcible manipulation. The parts were kept in place by means of my modification of Dupuytren's splint. The result was very good, there being slight disability of the ankle left.

Case LXXXIV.—C. D., an intoxicated man, fifty-three years of age, for the purpose of drawing off his water, took a hat-pin six inches in length, and pushed the glass head of it through his urethra into the bladder, its sharp point being lost in the pendulous part of the penis. On the 24th of Jan., 1893, the day after the accident, I saw the patient, and found the point of the hat-pin lodged in the soft part, just at the anterior limit of the scrotum, the head of the pin being in the bladder. I made every preparation for a cutting operation. Then I pushed the skin so as to make the point of the pin protrude, when I seized it with a pair of forceps and pulled the pin out, so as to bring the head of it into the urethra, under the place where it emerged, and then reversing the direction by carrying its point downward and backward, it was easy enough to push the pin's head out of the meatus, and so pull the entire pin out. Then the patient went home—"all right."

Case LXXXV.—Mrs. M. D., twenty-six years of age, had a fracture of the left leg just above the ankle, twenty years ago. In the meantime there had been occasions when she had suppurating sinuses at the seat of injury. She had a considerable enlargement over the front of the lower end of the tibia, on which I operated Jan. 25, 1893. A vertical incision was made down to and into the bone, the saw being required for cutting the bone, and then the

growth was partly sliced out with the scalpel. The wound was dressed open, and the patient was given the bromide of arsenic, 1-40 gr. after each meal. The rest of the growth disappeared in a few weeks, and an apparently perfect recovery followed.

Case LXXXVI.—A man about seventy-five years of age, in feeble health, came to my clinic, Jan. 25, 1893, having a large hydrocele of the left side of the scrotum. He did not seem to be strong enough to have a radical cure undertaken, so he was tapped and the fluid drawn off with trocar and cannula.

Case LXXXVII.—A nine-year-old school boy had tubercular disease of the foot. An incision was made into the infected parts including the diseased bones. The infected parts were scraped out as far as possible, and the excavations were well washed out with a 1 to 1,000 warm solution of mercuric chloride. Drainage tubes were inserted, and antiseptic dressings were applied. The carbonate of lime was given the patient before meals, and the syrup of the iodide of iron was given after meals. The progress of this case was very favorable.

Case LXXXVIII.—Captain B., seventy-three years of age, had an ulcerating epithelioma upon his right cheek, and was too feeble to take an anæsthetic. He lay down upon the operating table, and the electro-cautery knife was used to cut a circular furrow around the neoplasm, which had a surface a little larger than the thumb-nail. Then the mass was ligated, as thoroughly as possible, by passing a strong ligature under its base in several directions. It sloughed away in a few days, and he left the hospital much improved, with the surface of the excavation granulating. He returned some weeks later exhibiting a nearly normal scar.

Case LXXXIX.—A laborer, thirty years of age, came to the clinic, with a sebaceous cyst, having a very thick wall on the back of the head. It was adherent to the peri-cystic tissue, and had to be dissected out. There was considerable hæmorrhage, requiring the use of the suture-ligature, which is best inserted by a curved Hagedorn's needle. Sebaceous cysts of the scalp can generally be easily enucleated.

Case XC.—T. M., a girl, eighteen years of age, had an abscess of right axilla. The abscess was opened, and irrigated with a warm solution of mercuric chloride. The healing was rapid and satisfactory.

Case XCI.—This was the same patient as Case XXIV. New foci of pus-formation were found in the tissues adjacent to the incisions made previously. They were thoroughly opened. Then the patient was treated with ten-grain doses of carbonate of lime given three times a day. No other pus foci have been developed, and the patient has been recovering in a very satisfactory manner. Operation performed Feb. 1, 1893.

Case XCII.—On the same day, Mr. D., thirty-three years of age, had the little finger of his right hand amputated for incurable deformity caused by a burn. The head of the fifth metacarpal bone was cut off obliquely, in order that the hand might have a better shape. The flaps were brought together with deep sutures, and primary union was obtained.

Case XCIII.—J. M., farmer, thirty years of age, on evening of Feb. 8, 1893, had his left foot crushed by the wheel of a trolley car, and was brought to the College Hospital. On consultation it was found that the foot could not be saved. The day after the accident I amputated the leg in the middle third. The posterior flap was made by transfixion, and the anterior by incision. The anterior tibial artery was secured by a suture-ligature. The two principal nerves were drawn out and cut off as closely as possible. The general health of this patient was not good, and the soft parts were bruised. Repair went on slowly.

Case XCIV.—T. B., a woman, about fifty years of age, was admitted to the hospital Feb. 17, 1893, suffering from cancer of the liver, accompanied by dropsy. A large quantity of fluid was drawn off by tapping, and then the disease of the liver could be surely traced. Such cases are hopeless. We know of nothing that will save the life of such a patient. Our appeal is, let physicians never cease to make every attempt to find some medicine that will give our patients relief. It is to be hoped that a cure for cancer will some day be found.

Case XCV.—Mrs. M., forty-nine years of age, had a femoral hernia of the left side, which had caused her more or less trouble fifteen years. The hernia became strangulated, and could not be reduced. After the lapse of three days, and when several attempts at reduction had failed she was brought to the College Hospital on the evening of Feb. 15, 1893. I operated just before midnight, and found a very tight constriction biting the intestine, which had a small loop protruding. The intestine appeared to be almost gangrenous. It was adherent to the entire sac, which had to be dissected off. The patient was in such a collapse that a very speedy operation was required. The opening was made large enough to place the damaged part of the intestine just within the abdomen. An exsection would have been fatal, for the patient barely survived the operation under the circumstances. It was thought that if sloughing of the intestine occurred, it would be well to have the wound left open. So the parts were dressed in such a way as to permit a free drainage. It was three days before this patient showed any material signs of reaction. She slowly improved after this time. The wound healed by granulation, making a firm scar. The patient went home at the end of about five weeks, and will have a radical cure.

Case XCVI.—H. B., twenty-four years of age, had a compound fracture of the end-bone of the right index finger, caused by a circular saw. A circular flap amputation was made at the middle of the second finger bone. There was primary union.

Case XCVII.—F. L., seventeen years of age, had an ingrowing nail of the right great toe. It acted as a foreign body, and the "flesh" had grown up over each side of it. The nail was split with a pair of scissors and the parts everted, and then the fleshy granulations were cut off.

Case XCVIII.—T. S., a ship's mate, fifty years of age, on Feb. 3, 1893, had an attack of vomiting, and then he noticed a swelling in the right groin, just below Poupart's ligament. He was brought to the hospital, where an exploratory operation was advised. It was not easy to say how much of the swellling was hernia, how much was adenitis, how much was abscess. Hence, it was thought best to make an exploration. After anæsthesia, an incision was made down to the sac which was very thick. The end of a foreign body presented itself to the touch of the finger, and on removal it was found to be a wood-sliver about two inches in length, sharp at either end and generally somewhat rough of surface. It

was a sliver of hard pine wood. It had worked its way from the intestine out through its wall and the wall of the hernial sac. The parts were freely opened to let out the pus, and afford good drainage. Repair took place in the wound, and after two weeks the bowels were moved by injections and laxatives. In about three months the patient was sent home to England. His general condition, while not very good, had improved. At no time did it seem advisable to undertake further operation. At the time I operated upon him, an exsection of the intestines would have caused his death, on account of his feebleness. In the future it may be deemed advisable to operate further.

Case XCIX.—T. R., an Italian sailor, came to my clinic, Feb. 27, 1893, having tubercular infection of the glands of the neck. An incision was made into them, and they were thoroughly scraped out with the curette. In such cases, the bronchial glands in the upper part of the chest are involved, and cannot be removed. An operation for the removal of tubercular gland of the neck is more or less serious. And it often happens that some foci of infection cannot be reached safely; but the process of repair more frequently removes the peri-glandular bacilli, and the cases do remarkably well. Having this experience, I am not so anxious as formerly to remove all suspected points.

Case C.—J. C., a driver, twenty-two years of age had periostitis of the left tibia. An incision was made down to the bone, allowing free hæmorrhage. Then linear osteotomy was performed, so as to permit the escape of inflammatory products from the bone. The wound was dressed open, and the case improved for a time; then pus formed in the tissues adjacent to place of the operation. The administration of the carbonate of lime arrested the work of the pus-organisms.

Case CI.—H. W., three years of age, had symptoms of stone in his bladder. A sound confirmed the diagnosis. On March 1, 1893, I performed the medio-lateral operation. The stone was an inch in length, half an inch in thickness, and five-eighths of an inch in width. One of its sides was attached to the mucous membrane of the roof of the bladder, and detachment was necessary before I could grasp the stone with the forceps. While the right hand pushed backward and downward the abdomen over the bladder, the left index finger detached the stone. Here I must repeat the advice: To pass a grooved director through the wound into

the bladder, before the removal of the staff, in order to guide the finger safely into the bladder between the two instruments, thus preventing the possibility of pushing the neck of the bladder away from its connections with the deep fascia. This case made an excellent recovery.

Case CII.—A colored man, only sixty years of age, was admitted for an operation; removal of the left breast which had developed a small cancer about as large as the fist. The disease had been about two years developing. Cancer of the male breast is rare. There was nothing very special in the case, except that there was not integument enough to close up the wound of operation. The tumor was small and circumscribed. Much care was taken to make this case successful; but in a few days after the operation, pneumonia "set in" and the patient died in forty-eight hours.

Case CIII.—Mr. F., twenty-one years of age, had the end of his right thumb crushed by machinery, and after bruised portions mortified, they were trimmed off, so as to leave as much of the thumb as possible, a small part being left to granulate. The result was a useful thumb.

Case CIV.—C. P., a boy fourteen years of age, March 3, 1893, was accidentally shot, just internal to the left eye, the ball going through the left nasal bone, and into the cells of the ethmoid bone, where it was decided to leave it after a careful exploration. There were no special symptoms developed. The patient made a rapid recovery. The ball, which was fired by a small pistol, became encysted.

Case CV.—J. S., a laborer, forty-five years of age, in a fit of despondency, because he had failed to get work and earn bread for his family, cut his throat. The wound opened the larynx, but did not sever the large blood-vessels of the neck. The wound in the larynx was closed with cat-gut sutures. The wound of the neck external to the larynx was closed by deeply inserted sutures, and a drainage tube was employed. The wound had been injected while the patient was waiting to be conveyed to the hospital, and so there was some suppuration. The patient made a good recovery.

Case CVI.—J. F., a laborer, thirty-eight years of age, July 3, 1892, had a strangulated hernia of right side, accompanied by dropsy, and was operated for its relief by Dr. Lewis. It was not possible to make a radical cure at that time, and the wound was

left open so as to permit the fluid to run off from the peritoneal cavity. He returned in March 1893, having a recurrence of the hernia. An operation was undertaken for radical cure. The spermatic cord was very short, and could not be well separated from the tissues around it. I pushed it firmly to the inner side of the opening and fastened it here with cat-gut sutures, and closed up the vaginal canal. The result was very encouraging, but after a time there was a recurrence of the protrusion in the meshes, so to speak, of the spermatic cord. He was very anxious to have a cure so that he could continue his work of a stone-mason. He gave permission to remove the testicle, if it were found necessary. In operating the next time, I found on exposing it, his testicle very small, with the epididymis nearly gone, and the cord was so involved in its surroundings that it could not be separated to any extent, nor was there any sac that could be dissected up. The cord was ligated on a level with the internal ring, and the testicle was removed. The stump of the cord was fastened in situ, and the ring was completely closed with cat-gut sutures. Then the wound was closed with deep silk sutures. The repair was by primary union, and the condition good. He left the hospital the last of April, having a radical cure.

Case CVII.—B. F., a workwoman, had a painful and ulcerating stump of the right leg, which had been amputated in the middle third, twenty-six years before, when she was twelve years old. A re-amputation gave her an excellent stump covered with integment. There was a kind of fatty condition of the stump, the adipose tissues being abundant, and the bones being quite soft. She can now have an artificial limb applied, and be able to lay aside her crutch.

Case CVIII.—Same as Case XXXIII. Adventitious cavities containing pus were opened as freely as possible. The administration of ten-grain doses of carbonate of lime arrested the extension of the infection and the patient recovered.

Case CIX.—T. H. B., a sailor, forty-six years of age, had some indolent swelllings in the upper part of the front of the left thigh. They had opened and discharged, leaving sinuses. Ether was given, the sinuses were opened and the cavities were irrigated with a solution of mercuric chloride. Under a tonic and alterative treatment, this patient slowly recovered.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

MEDICAL POCKET-ATLASES. Obstetrics, Part I. Labor delineated in ninety-eight plates. By O. Schæffer, M.D., translated and published under the supervision of J. Clifton Edgar, M.D. New York: L. Hydel, 1893. Price $1.80.

This atlas represents the various obstetric presentations, step by step, in a continuous series of diagrams which shows the delivery of the child and placenta in a scientifically accurate way It is a book which one can put in the pocket, and one which will be of inestimable value to the practitioner at a time when help cannot be obtained, and when the hints in the atlas will be all that is needed. Dr. Edgar has done the profession a great service in translating Schæffer's little book, and we hope the interest which the profession will show in it will be commensurate with the service.

THE OBSTETRIC EXAMINATION. A short guide for Physicians, Students of Medicine, Midwives and Students of Midwifery. By Professor E. Crede, M.D., and Professor G. Leopold, M.D., with five cuts. Edited by J. Clifton Edgar, M.D. New York: L. Hydel, 1893. Price 25 cents.

A description of the obstetric examination, both external and internal, together with special regulations as to disinfection precautions, are given in this pamphlet of sixteen pages.

NOTES ON THE NEWER REMEDIES. THEIR THERAPEUTIC APPLICATIONS AND MODES OF ADMINISTRATION. By David Cerna, M D., Ph.D. Philadelphia: W. B. Saunders, 1893. Pp. 177.

This brochure has been prepared to furnish the practitioner and student, in as brief a manner as possible, the salient points concerning the employment of the newer remedies, in the treatment of disease. Special attention has been paid to their therapeutic application and the modes of their administration, and points have also been given in regard to their origin, physical properties, and solubility. The book, being alphabetically arranged, is a handy volume to have at one's side on his office desk for ready reference.

A TREATISE ON NERVOUS AND MENTAL DISEASES. By Landon Carter Gray, M D. Philadelphia: Lea Brothers, 1893. $4.50 (cloth).

This work has been so long announced that one would be constrained to give it careful attention, even if its author were a less prominent specialist. While perhaps a student's manual it is also a work sufficiently thorough to serve most practitioners' needs, and so withal so good that it must add even to Dr. Gray's reputation. The volume is divided into three parts: Introduction, 117 pages (Anatomy and Electricity); Nervous Diseases, 458 pages; Men-

tal Diseases, 96 pages, besides table of contents, glossary, index, etc. The illustrations, though not over numerous, are for the most part good and apposite. However, the occurrence of one large cut three times (figures 62, 64 and 79) is unnecessary, and the photo-micrographs are little else than botches. As to the subject matter surprisingly few slips are apparent for a first edition. The statement on page 126 that lesions of the thalamus cannot be diagnosticated overlooks the loss of minetic or involuntary movements in some thalamic lesions as well as a warrantable inference that can sometimes be drawn from implication of neighboring parts or by exclusion. The anatomical part of the volume might far better have been left to the other Gray, or to some special treatise. Of course it is too much to expect that such a writer draw with proper sharpness the differences between hæmorrhage and embolism or thrombosis, or recognizes how vastly important for the patient is an early differential diagnosis between these, with immediate institution of the proper treatment. And yet one might expect more than eight pages devoted to a subject so highly important in actual practice.

The literary style of the whole is admirable. Everything is orderly, clear, suitably concise, and at times touched with the breath of current events or some happy reference to extra medical writers. As an example of vigorous writing may be cited his brief arraignment of Hammond's views on cerebro-spinal hyperæmia and anæmia. The pronoun "I" is used with a frequency that is decidedly un-Emersonian, not to say suggestive. It may be good without doubt to talk as well as strike from the shoulder, yet there should be some limit to such a feature. He has happily followed the example of Shaw's little compend by including a brief section on mental diseases.

The care with which parts referring to therapeutics have been prepared is noticeable and somewhat novel. The many little practical details that so often separate success from failure on any plan of treatment are admirably summarized.

On the whole the volume of Gray deserves to be recognized as one of the best treatises that we now have in this field. WM. BROWNING.

HAND-BOOK OF THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT, NOSE AND NASO-PHARYNX. By Carl Seiler, M.D., etc. Fourth edition, thoroughly revised and greatly enlarged. Illustrated with two lithographic plates containing ten figures, and one hundred and seven wood engravings. Philadelphia: Lea Brothers & Co., 1892. Pp. 412. Cloth $2.25.

This edition of Seiler's well-known hand book contains an entirely new chapter on Influenza and American Grippe, and also a new chapter on Intra-Nasal Neoplasms. Bes des these we find a description of the effect of uterine disease upon the mucous membranes of the upper air passages in producing chronic inflammations, and intra-nasal disease as a cause of acne of the face and neck. There are also several new and original wood engravings, which help to elucidate the text.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Sixth Session, Vol. V. Philadelphia: Published by the Association, 1893. Pp. 282.

This volume contains thirty-three papers on orthopedic subjects, among them being one entitled "Orthopedics for the Poor," by John C. Schapps, of Brooklyn.

This association numbers among its members many of the prominent surgeons of the United States, and the papers and discussions are exceedingly valuable.

A Manual of Organic Materia Medica. For the use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Ph.M., Phar.D. Fifth edition, with 270 illustrations. Philadelphia: Lea Brothers & Co., 1892. Pp. 556.

Perhaps the most prominent improvement in this edition is the indication by marks of accent of the pronunciation of the systematic names of plants and animals.

The text has been carefully revised, some new illustrations added, and the pharmacopœial drugs which are recognized by the Pharmacopœia made more prominent by larger type. The book is one of the best that we have on our shelves.

History of the Life of D. Hayes Agnew, M.D., LL.D. By J. Howe Adams, M.D. With fourteen full-page portraits and other illustrations. In one large royal octavo volume, 376 pages, extra cloth, beveled edges, $2.50 net; half morocco, gilt top, $3.50 net. Sold only by subscription. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

This volume is a most eloquent tribute to one of the most talented surgeons that this country has produced. The reader will find in it not only the purely professional work which Dr. Agnew performed, but the contributions which he made to literature. The author has also given a full account of the celebrated case of President Garfield, with which Dr. Agnew was so prominently identified.

Manual of Chemstry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book, Specially Adapted for Students of Pharmacy and Medicine. By W. Simon, Ph. D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons, Baltimore, and Professor of Chemistry in the Maryland College of Pharmacy. New fourth edition. In one 8vo. volume of 490 pages, with forty-four woodcuts and seven colored plates illustrating fifty-six of the most important chemical tests. Cloth, $3.25. Philadelphia: Lea Brothers & Co., 1893.

It is scarcely a year since we were called upon to notice the appearance of the third edition of this text-book. That a fourth should be called for so soon is sufficient proof of the adaptation of the volume to the wants of both teachers and students. The feature which struck us as that in which Simon's Manual was *sui generis*, was that the reactions are so admirably illustrated by colors. This feature is preserved in the present edition.

MANUAL OF CLINICAL OPHTHALMOLOGY. By Howard F. Hansell and J. H Bell.

This is a volume of 231 pages, from the press of Blakiston, Son & Co. The paper, printing, etc., are excellent, and it is very fully illustrated, but with more regard to quantity than to quality. What there is of the text is good, but the book is so concise as to be entirely inadequate even to the needs of an undergraduate, more especially when such excellent smaller text-books as those of Swanzy, Nettleship, Meyer, Berry and others are to be had. As stated in the preface, "Simplicity and brevity of statement have not been sacrificed to the mere attractiveness of literary finish," and the result is a book too brief to be of much service. R. L.

DISEASES OF THE EYE. By G. A. Berry. Revised and enlarged. Lea Brothers & Co.

It is now about four years since the first edition of this valuble book was published, and its merit is so well recognized that a detailed review of it is unnecessary. It has been enlarged by over fifty pages of text and an equal number of illustrations, many of them colored. The subject matter has been advantageously rearranged, the print and paper are all that could be desired, and the book is now one of the best of the smaller text books on the diseases of the eye obtainable. It may be properly recommended to both students and practitioners. R. L

NAPHEYS' MODERN THERAPEUTICS. Vol. I. General Medicine and Diseases of Children. Edited by A. J. Smith, M.D., and J. A. Davis, M.D. Philadelphia: Blakiston & Co., 1892.

The increase in the number of drugs in the pharmacopœia is well shown by a comparison of two volumes. One is a small 12mo. book, bearing the title "Napheys' Modern Therapeutics, 1870." It contains 390 pages. The other is the above 8vo. volume of 1 054 pages.

It is a high compliment to Dr. Napheys that his work should pass through nine editions, and although the present volume has outgrown all its predecessors, the original plan is still carried out. Like all books published by the above house, the present volume is issued in very handsome dress.

HENRY CONKLING.

MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Instructor in Physical Diagnosis University, Pennsylvania. Philadelphia: W. B. Saunders, 1893.

In the preface of this 12mo. book of 501 pages, is a quotation from Pope: "Half our knowledge we must snatch, not take." This single sentence explains fully the method of construction of the manual. No space is taken up with useless words. On many pages verbs are not used where a few words grouped together can express the meaning. A definition is given of the disease. Then follow ætiology, pathology, symptoms treatment. Everything is condensed, yet even the latest studied diseases are described. There are numerous illustrations. The book is intended especially for students.

HENRY CONKLING.



ALEXANDER MONRO, *SECUNDUS.*

The second Monro was appointed Professor of Anatomy at the age of twenty-one, before he had taken his degree or finished his studies in the University in consequence of his father's petition to the Council that, "by and by, he would require a successor, that no one could be expected to devote himself to anatomy without due encouragement, and that anatomy is the foundation of the school and requires to be taught by one who is master of the subject. That his youngest son Alexander appeared to have the necessary qualities, and had already proved that he was equal to the office, and that if they would now appoint him, he would have the young professor educated under the best masters in Europe, and that he should have all his father's papers, books, preparations and instruments and all the help he could give him." The petition was supported by his colleagues in the University, and was at once granted.

Having taken his degree he successively visited London, Leyden, Paris and Berlin, spending two and a half years, chiefly in the study of anatomy, under such masters as William Hunter, Albinus and the great German anatomist, Meckel, of whom he was not only the pupil, but resided in his house during his residence in Berlin, having thus every opportunity to become familiar with the newer methods of anatomical research.

Returning to Edinburgh in 1758, he at once commenced his duties as professor. The father had to the last taught the old doctrines respecting the blood; this young Monro began by controverting. The novelty of his matter, combined with the clearness of his style, is described by one who was present as having acted something like an electric shock on the audience. It was at once seen that he was master of his subject and of the art of communicating knowledge to others; his style was lively, argumentative and modern compared with that of his more venerable colleagues, and from this beginning, for upwards of half a century, his career was one of easy and triumphant success.

His father's class, which we have seen he began with 57 pupils, he increased during his long career to 400, and notwithstanding the time and labor connected with teaching such great classes, he found time to write largely on anatomical subjects, besides being in the active practice of medicine. In the words of an eminent colleague and rival, Monro was "for more than half a century at the head of the great medical school of Edinburgh, and for the greater part of that time unquestionably at the head of his profession in Edinburgh and in Scotland."

He was in turn succeeded by his son ALEXANDER MONRO, *tertius*, who continued the work of his father and grandfather for nearly another half century, bringing the history of the Medical School of the University of Edinburgh down to 1846; Monro, *secundus*, having died in 1817, aged 84, and his father Monro, *primus*, having died at the nearly equally venerable age of three-score and ten, in 1767.

The period during which they were acting professors of anatomy were respectively 38, 50 and 38 years, and thus the three Monros occupied the chair for the long period of 126 years. J. H. H.



CLAUDE NICHOLAS LE CAT.

This eminent French surgeon and lithotomist was born at Blerancourt, in 1700. If chirurgical skill be hereditary, his claims were considerable, as he was descended both by the father's and mother's side from eminent practitioners. He studied for his profession in Paris, but the big fees (6,000 livres) demanded by that faculty drove him to take his medical degree at Rheims, in 1732, having in the meantime, since 1729, held the position of surgeon and physician to the Archbishop of Rouen.

In 1733, he settled in Rouen, and began to give a course of anatomical lectures, and practice his art, and soon established a national reputation for his dexterous method of doing the operation of lithotomy.

When the Royal Academy of Surgery was established, in 1731, he competed for and obtained the first prize, and continued to take all the prizes of the Academy to the year 1738 inclusive, when the academicians requested that he would no longer be a candidate, but to leave to others a chance of obtaining some of the rewards. Flattering as this compliment seemed, Le Cat was aware that they had it in their power to prevent his contending for prizes in a more effectual way, by electing him one of their body, and accordingly stood for the prize of 1739, with his usual success, which compelled the jealous academicians to make him one of the elect. It is needless to say that he continued his career of fame, and by his numerous publications brought much honor to the Academy as well as to himself.

He had excited the enmity of the faculty at Rouen by, in 1736, establishing a school of anatomy and surgery and erecting an ample theatre at his own expense, where he gave lectures gratis for ten or twelve years, after which time he received a pension from the king. From this school the present Academy of Rouen arose.

His method of performing the operation of lithotomy was the cause of some acrimonious discussion, and in 1755 a general meeting of lithotomists was held in Paris to determine on the superiority of his method, and the decision was in his favor. Exactly what his peculiarity was the writer has been unable to learn, further than that he recommended to keep the wound diminishing in size from without inward, and a peculiar form of bandage.

He was also celebrated for some peculiar views on the subject of gunshot wounds, and as an operator on the eye. It is related that in the spring of 1755 he was invited to Lisle and the Netherlands, to attend "some people of the first rank" afflicted with cataract, and effected some cures so remarkable that the populace considered them as miracles

He died in Rouen in 1768, and was interred in the new church of the Holy-Dieu. Haller characterizes Le Cat as an ingenious man, distinguished for some real discoveries in anatomy, but inaccurate with respect to others, and prone to new hypotheses. J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

SOME OF THE METHODS OF OBTAINING AND EXAMINING THE STOMACH CONTENTS IN DISEASE FOR PURPOSES OF DIAGNOSIS.

BY J. FUHS, M.D.,
Physician to St. Catharine's Hospital and Brooklyn Throat Hospital.

Read before the New York State Medical Society.

Through the methods of physical diagnosis we are enabled to recognize many important pathological conditions of the stomach. We may detect a tumor, an ectasy, a displacement, etc., but to understand the functional diseases of this organ it is requisite to obtain the stomach contents in a definite manner and subject it to a careful examination.

The results thus obtained will often throw more light on the nature of the diseased condition, and lead to a correct interpretation of the results of physical exploration. In fact, we are fre-

quently obliged to rely entirely on the examination of the stomach contents, other methods having failed to aid us in diagnosis.

This is notably the case in certain catarrhal and also in atrophic conditions of the gastric mucous membrane.

The examination of the stomach contents enables us to detect not only disturbances of secretion but also of motion and absorption.

To understand the disturbances of digestion it is necessary to be familiar with the normal processes, so as to establish a standard or unit by which we could measure their deviations.

The fluctuations occurring in normal digestion in different persons and under varying physiological conditions make it difficult to establish such a standard.

Physiologists and clinicians have united to solve this question, so that as the result of thousands of experiments, the normal digestion of certain foods is well known.

Representatives from the chief groups of nutriments subject to gastric digestion combined in definite quantities, form the so-called trial meals.

For practical purposes, Ewald's trial breakfast answers best our requirements. It consists of one water roll, weighing thirty-five grammes, and a cup of tea or three or four hundred c. cm. of water. This is administered on an empty stomach and removed an hour afterwards.

Riegel's trial meal—consisting of a cup of broth, four hundred grammes, sixty grammes of beef and fifty grammes bread—is given on an empty stomach and must be removed from four to six hours later.

The following method used by Jaworski is complicated and not as satisfactory for clinical purposes as the methods previously mentioned.

After introducing and aspirating one hundred to three hundred c. cm. of water, the white of from one to two boiled eggs and one hundred c. cm. of water are administered and removed at definite intervals.

One-half of a litre of milk and two rolls are used by Klemperer, while Germain Sée administers sixty to eighty grammes of meat and one hundred to one hundred and fifty grammes of bread. Ewald's method offers so many advantages that it is now almost exclusively employed.

By employing his method the nourishment can, in most cases, be removed after an hour, and simply by contractions of the abdominal muscles, the so-called Ewald's method of expression. An aspirator or syphon is required to remove Riegel's, Germain See's, Klemperer's and Jaworski's trial meals. This, in conjunction

with the increased time required before the stomach contents can be evacuated, are serious drawbacks to their employment, while they offer no additional advantages over Ewald's.

Normally the stomach is found empty two and one-half hours after Ewald's and seven hours after Riegel's trial meal. The quantity removed one hour after Ewald's should be no more than from fifty to eighty c. cm.

To obtain the entire contents of the stomach we employ the stomach tube. Einhorn's stomach bucket is intended for the removal of small quantities. For the latter purpose I have also introduced into the stomach a strong gelatine capsule coated with parafine on both surfaces except at its upper end, and securely held by a silk thread.

In this way the entrance of the secretions from the mouth and œsophagus is prevented.

The soft rubber tube has superseded the stiff instruments formerly employed. Ewald first directed attention to its employment and has thereby cleared away many obstacles and dangers to the removal of the gastric contents. Such a tube is easily introduced and without risk to the patient.

The length of the tube should be from eighty to ninety centimetres and its lumen from six to eight mm. in diameter and should be slightly conical at its end. Ewald prefers a tube open at the end, so as to facilitate cleansing.

It also has a large fenestra and a number of smaller openings near its lower end. Leo prefers a tube with two lateral openings only, and noticed that tubes with open ends clogged very easily.

But this may also occur with the lateral fenestra while removing the contents of the stomach after an Ewald trial breakfast. The open tube is preferable for antiseptic reasons. The openings and surface must be smooth and a glass tube with smooth ends, inserted at the upper end. This is done for the purpose of attaching a funnel with a long rubber tube, so that we are able to convince ourselves by irrigation that we have removed all the contents. Before attempting the introduction of the tube a thorough physical examination must be made, as conditions may exist which would convert this simple procedure into a dangerous one.

For, in spite of every precaution and skillful use of the tube, we cannot prevent nausea and excitement at the first introduction.

I cannot do better than repeat the contra-indications, as formulated by Boas.

1. Cardiac diseases in the stage of incomplete compensation, neuroses of the heart, angina pectoris, myocarditis, cor adiposum.

2. Aneurysms of the larger arteries.

3. Recent hæmorrhages of any kind (pulmonary, gastric, renal, cystic, cerebral, etc).

4. Advanced pulmonary phthisis.

5. Advanced bronchial catarrh, with emphysema.

6. Apoplexies and cerebral hyperæmia.

7. Gravitity.

8. Continuous or remittent fevers.

9. Advanced cachexia.

b. In cases which can be diagnosed without the tube :

1. Ulcus, hæmatemesis.

2. Palpable pylorus carcinoma with macies, vomiting of coffee-ground material and the rest of the classical signs of carcinoma.

3. Many gastric neuroses, the characters of which are clearly defined by other symptoms.

4. Acute febrile, gastric and intestinal catarrhs.

5. An inclination of the mucous membrane of the stomach to hæmorrhages.

6. Secondary affections of the stomach, the relations of which to the primary disease can be easily recognized.

Having convinced ourselves that none of the contra-indications exist, we examine the mouth to detect any mechanical obstruction, remove artificial teeth and proceed to instruct the patient. He must be told to swallow in order to introduce the tube, not to hold his breath, but take deep inspirations and contract his abdominal muscles when the tube reaches his stomach.

The patient is seated on a chair, his clothes protected by a towel, and a handkerchief so placed as to receive the saliva.

The tube, dipped in water (fat or vaseline being unnecessary) is then either placed on the tongue and allowed to slide over the epiglottis by deglutition, or it is at once brought to the posterior pharyngeal wall and then slowly pushed down during efforts of swallowing. The latter method being less troublesome.

The application of a ten per cent. solution of cocaine to the pharynx has rarely been used during the extensive experiences of Ewald and Boas. None of my cases required its use.

Repeated contractions of the abdominal muscles will now force the stomach contents into a graduated glass vessel, the exact quantity removed being of diagnostic value. A failure to obtain the gastric contents may be due to the existence of dilatation or displacement, in which case more of the tube must be introduced.

On the other hand, the tube may be introduced too deep, so that its lower end might curve upward and fail to communicate

with the stomach contents, or the latter may be so solid as to close the openings of the tube.

Oser advises to compress the tube close to the mouth and then withdraw it, so as to obtain the quantity that has entered it, which may be sufficient for an examination.

The abdominal muscles may be too weak and the stomach so dilated that we require the aid of aspiration. This is best accomplished by attaching to the tube a rubber bulb supplied with clamps on each side.

The application of complicated aspirators and syphons is entirely uncalled for, pieces of mucous membrane having been known to be aspirated and torn off by their use. Though this injury was not followed by any evil consequences in the reported cases, it demonstrates the necessity of avoiding strong suction. In some instances, as in a case observed by me, the stomach is found entirely empty an hour after Ewald's trial breakfast, while in other cases as much as 300 c. cm. are obtained. Between these two extremes the quantity varies according to the efficiency of the motor, resorptive and secretory function.

The odor of acetic and butiric acids is readily recognized and easily distinguished from that of the normal contents.

On inspection we notice the presence of bile, blood or pus, or an excess of mucus, etc.

It is very important to note whether the solids exist in the form of a fine powder or in lumps, whether they quickly settle at the bottom of the glass or are held in suspension by the tenacious mucus.

The rapid differentiation in some specimens produce a striking appearance, indicating the existence of hyperchloridity.

The finely granular solids form a well defined layer at the bottom of the glass, and are covered by a somewhat turbid liquid, the surface of which is scantily covered with mucus.

The excessive quantity of tenacious mucus contained in specimens of catarrhal gastritis also produce a characteristic appearance of the stomach contents. Solid particles of considerable size slowly disentangle themselves from the thick mucous layer floating at the top and slowly descend through the turbid fluid to the bottom.

The process of fermentation can be easily observed by the odor and by the bubbles of gas rising to the surface. The absence of fermentation or decomposition after preserving specimens for considerable time, indicates the existence of a large percentage HCl.

Now we proceed to the chemical examination. We first ascertain the reaction by means of litmus paper. If acid, the presence

of free acids, mineral or vegetable, is next determined by the aid of Congo paper or a solution of congo. Although the latter is more sensitive, for practical work the paper is preferable.

The change in this red coloring matter into blue indicates the presence of free HCl., lactic, acetic or other free acids, but does not determine their nature.

Tropaeolin and Benzopurpurin possess no advantage over Congo red. Free HCl. is best detected by means of Gunzberg's reagent, consisting of

Phloroglucin	2.0
Vanillin	1.0
Abso. alcohol	30.0

This reagent, having a light yellow color, turns to a beautiful red when moderately heated with equal parts of stomach contents containing even only minute quantities of free HCl.

Resorcin, recommended by Boas, in the proportion of 5 G. to 100 of dilute alcohol and 3 of cane sugar, is a very sensitive reagent, turning bright red when free HCl. is present. Methyl violet, formerly extensively used as a reagent for free HCl., does not possess the advantages claimed for it. Having ascertained the presence or absence of free HCl., we proceed to test for lactic acid. This is usually accomplished by Uffelmann's reagent. 10 c. cm. of a four per cent. solution of carbolic acid and 20 c. cm. of water and one drop of a watery ferric chloride solution form an amethist blue mixture when freshly prepared, which turns a greenish yellow on adding lactic acid. A very dilute watery and almost colorless solution of Ferric chloride turns a greenish color in the presence of the same acid.

The occurrence of this reaction with filtered stomach contents does not always indicate the presence of lactic acid, nor does a want of reaction show its absence. It is advisable to extract the acid by means of ether and test the residue by Uffelmann's reagent. The method of proving the presence of this body by forming the zinc salt, as recommended by Boas, though the most accurate, is not practicable for clinical purposes.

Acetic and butiric acids are recognized by their odor. The etherial residue shows, on the addition of a dilute solution of ferric chloride, a deep red color. The same extract neutralized and heated with sulphuric acid and alcohol has the characteristic odor of acetic ether. Butiric acid is recognized in the etherial residue by the addition of calcium chloride, the acid separating in the form of minute oil drops. Phenolphtalein is the best reagent for the determination of the general acidity.

The true peptones of Kuhne are separated by ammonium sulphate from other albuminoids, and can be precipitated by absolute alcohol, corrosive sublimate and tannin. The digestive test will decide the question of the presence or absence of pepsin. The addition of equal parts of neutralized gastric contents to neutralized milk enables us to prove the presence of rennet ferment.

Syntonin is precipitated by neutralization, propeptone by the addition of small quantities of acetic acid and a saturated solution of sodium chloride or ammonium sulphate in the cold, the precipitate dissolving on heating. Albumen is coagulated by boiling with some acetic acid.

The admixture of blood coloring matter is shown by Teichmann's reaction or the guiac test. The important clinical aid obtained by determining the quantity of HCl. contained in a specimen led to the development of numerous more or less complicated analytical methods, requiring the expenditure of much time and the aid of a laboratory. Sjevist's method is probably the one most frequently used. By the addition of barium carbonate the soluble chloride is formed if HCl. is present, free or combined with albuminoids. By evaporation and incineration and subsequent extraction with hot water and filteration, we obtain all the barium chloride which can either be precipitated with sulphuric acid and weighed (Jaksch modification). This method has been modified by Salkowsli and found defective by Leo and von Pfungen. Leo's, Hoftmann's, Winter's, Moerner's and Boas' methods possess the objectionable features of Sjvegvist's, and offer no special advantage over the latter. But Lüttke's method, a modification and an improvement of Hayem and Winters, could possibly answer for clinical purposes. All the chlorine compounds are precipitated by 1–10 normal solution of nitrate of silver and nitric acid. The amount of chloride is then determined by ascertaining the quantity of unchanged silver nitrate in the filterate and subtracting it from the original amount.

By treating the ashes obtained from an equal quantity of stomach contents in a similar manner, we obtain the amount of inorganic chlorides, so that by subtracting the latter from the entire amount of the chlorides we obtain the quantity of HCl. existing free or combined with albuminoids. As indicators for the titration of the remaining silver nitrate serve rhodan ammonium with ferric sulphate, the blood red color remaining only when all the silver has been converted into the rhodanide salt. For practical work the following mode of procedure requiring comparatively little time,

few apparatuses and chemicals, has been found useful in examinations of the stomach contents in my cases:

Having obtained all the information obtainable by inspection, and having determined the reaction by litmus and the presence of free acids by congo paper, we proceed in the following manner: The reaction being neutral or alkaline (a rare occurrence) a test is at once made for peptone and propeptone, so as to clear the question of our dealing with digestive products derived from the small intestine. The biuret test not indicating the products of peptonization, we further examine for pepsine and rennet ferment. This is accomplished by the addition of HCl., so as to form a two promille solution and of a flake of carmine fibrin or a disk of coagulated egg albumen to the filtered gastric contents, and by keeping this mixture at a temperature of 40° centigre for a definite time, and comparing it with a control specimen containing the same proportion of HCl., and some reliable pepsine. The great significance of the absence of pepsine as compared with that of HCl., pointed out by recent authors, especially by Boas, will make it necessary to perform this test. Coagulated egg albumen, cut in lamellæ of uniform thickness and punched out by means of a glass tube into disks of equal size (easily preservable in glycerine), are best used for this purpose.

The presence of rennet ferment is shown by the coagulation test previously described. Should an acid reaction be found by means of litmus paper and free acid by congo, we determine at once the presence of free HCl. by Gunzberg's reagent. The latter showing a positive result, we remove a definite quantity, say 5 c. cm. of the unfiltered and thoroughly mixed contents into a glass vessel, dilute with 3-4 times its volume of water, so as to make it almost colorless. A few drops of Gunzberg's reagent are then spread over as large an area as possible, so as to cover the inner surface of a white porcelain dish. A 1-10 normal potash or soda solution is then added, drop by drop, from a Mohr's burette. By means of a glass rod, dipped from time to time into the specimen, lines are drawn across the coating of Gunzberg's reagent. On heating these lines become a bright cherry red color as long as free HCl. is present. The quantity of 1-10 normal soda or potash solution required to prevent the occurrence of this reaction indicates the proportion of free HCl. contained.

Should, for instance, 1 cm. of 1-10 normal soda solution be required to just prevent the reaction in 5 c. cm. of stomach contents, we would say that the acidity due to free HCl. is equal to 20 (expressed in percentage).

Having neutralized the free HCl., we dip a strip of congo paper in the liquid to be tested. A blue discoloration would indicate the presence of free lactic acid (butiric and acetic acid being reconized by the odor). Further addition of the 1-10 normal soda solution would then be required until congo fails to show any reaction.

The quantity of alkali added would indicate the proportion of lactic acid present. A few drops of pheonolphtalein are now added and the tritration continued until a slight red discoloration indicates the neutral reaction of the fluid under examination.

The entire quantity of 1-10 normal soda solution required indicates the total or general acidity or the sum of the acidity due to free and combined acids and that of the acid salts.

If the reaction with congo should be negative after neutralixatiòn of the free HCl., phenolphtalein is added and the total acidity determined as above described.

In case both Gunzberg's reagent and congo should indicate the absence of free HCl. and free organic acids, the addition of 1-10 normal HCl. solution is required. The latter is dropped from Mohr's burette until congo paper dipped in the specimen shows a faint blue discoloration. Should Gunzberg's reagent at this moment indicate the presence of free HCl. we may safely say that there is no organic acid present. But if Gunzberg's reaction should then be negative, while congo indicates the presence of free acids, we would be obliged to continue the addition of 1-10 normal HCl. until phloroglucin vanillin indicates free HCl.

The quantity of 1-10 normal HCl. required from the positive reaction of Congo to that of Gunzberg, indicates the quantity of lactic (or other organic) acid contained in 5 cm. of the specimen. The difference of the total acidity and that due to lactic acid indicates the amount of HCl. contained. I might mention here, that for practical purposes the acidity due to acid salts is of no consideration if we examine specimens of the stomach contents obtained one hour after Ewald's trial breakfast has been taken.

In case the congo reaction should be positive and Gunzberg's negative, the free organic acid is tritrated with 1-10 normal soda solution until the congo reaction fails and then the total acidity determined by means of phenolphtalein. To a second specimen 1-10 normal HCl. solution is then added until Gunzberg's reagent demonstrates the presence of free HCl. The sum obtained by adding the quantity required to neutralize the free acids to that necessary to obtain a positive reaction with Gunzberg's reagent denotes the amount of lactic (organic) acid present. The differ-

ence between the total acidity and that due to lactic acid indicates the quantity of HCl.

Accepting 1.5 to 2 promille to be the normal amount of HCl. contained in the stomach contents one hour after administering Ewald's trial breakfast, we are enabled to determine rapidly an excess or deficiency of this acid. By the ordinary tests and by tritration, lactic acid is not found in normal specimens obtained one hour after the administration of Ewald's trial breakfast. In consequence of the diagnostic importance attached to the presence and quantity of lactic acid in such specimens Uffelmann's reagent should not be relied on, but a careful tritration should be carried out in every instance.

The time allotted to me permits me to mention only that by the iodine and Fehling's reaction and by microscopic examination we are enabled to recognize a retardation or augmention of the digestion of starch. Nor am I able but to mention the value of the spectroscope and microscope in the examination of the stomach contents and the importance of the analysis of the gases of the stomach for diagnostic purposes.

In conclusion permit me to remark that methods of examination, so simplified and easily carried out, giving us such valuable diagnostic aids, as those now in use for obtaining and examining the stomach contents, can and deserve to be utilized by every practitioner.

DERMOID CYST CONTAINING SUPERIOR MAXILLA WITH SIXTEEN TEETH.

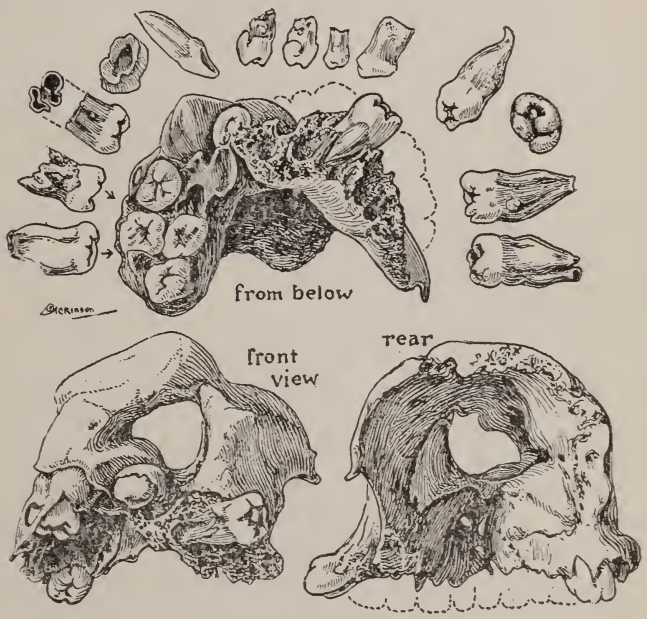
BY ROBT. L. DICKINSON, M.D.

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DR. DICKINSON:—This specimen is from a young woman who was operated on for a firm tumor behind and to the right of the uterus about the size of the fist, which was so firmly adherent that absolutely no motion could be imparted to the tumor. Before operation it was stated that the localized peritonitis that had occurred about it, and during repeated attacks, had so fastened and bound down everything that it was probable that only an exploratory operation could be done. But the patient was very urgent for operation, because of her septic condition, because of her repeated attacks of peritonitis, and her general debility. Being so unpromising a case, I urged her to go into the hospital and be operated

upon by Dr. Skene, but she had a morbid fear of the hospital, so she was operated on in a tenement house.

The patient was twenty-four years old, and had one child 3 1-2 years previously, stillborn, after a severe breech labor, with considerable laceration. Three months of peritonitis followed. She has rarely suffered from dysmenorrhœa. The uterus was disforward placed by the tumor half filling the pelvic cavity, which was fixed to the sacrum and right pelvic wall, and roofed with adherent intestine above.



DESCRIPTION OF CUT.

Superior maxilla with sixteen teeth from an ovarian dermoid.

The unique features of the specimen are these :—

The number of teeth, with the marked individuality of them.

The number of roots in some ; more than one being very rare.

The striking likeness to the hamular process or external pterygoid plate on one side.

The nasal opening, with an absence of the palate portion of the superior maxilla, or roof of the mouth.

The anterior palatine canals, or rude attempt at such.

The rude vomer, deflected to the left, as seen in the rear view.

The sutures in the bone, not well shown here, but clearly marked.

The bladder was adherent anteriorly, eight inches of small intestine were matted down solidly on top of the tumor, the cæcum and appendix glued fast on it, and the neoplasm was only felt through the bladder, through the cæcum and through the small in-

testine. I was about to give up the thing as impossible, when the condition of the patient and the inevitable going to pieces from sepsis induced me to try further, and with long and careful manipulation of the adhesions I was able to peel away the intestines, making a slight rupture in one place of 1-8th of an inch which was sutured at once, with a small injury to the bladder which was repaired, and with a laceration of the appendix, which was removed. I finally came down to the tumor, which proved to be a dermoid. The sac contained the superior maxillary bone with sixteen teeth. The teeth when first brought out were mostly in place in their sockets, but the handling has broken most of them away. The adhesions to the rectum were so firm I had to leave a small part of the sac and pack the cavity. The patient rallied well and had no abdominal symptoms, but died from delayed shock in fifty hours.

The contents of the sac were putrid, and the bones partly broken down by caries. Whatever other material the cavity contained has been broken down into pulpy rottenness. The specimen speaks and smells for itself.

Dr. Skene :—About how long was the whole tumor?

Dr. Dickinson :—It extended from the promontory of the sacrum nearly to the coccyx and filled the whole cavity of the sacrum. The uterus was pushed against the back of the symphysis. The tumor occupied all the back of the uterus and part of it was behind the uterus and the right broad ligament.

One measure was undertaken which proved satisfactory. Not knowing at first that the mass was putrid and knowing that it was firmly embedded, I had given her massage and loosened the adhesions in the left side and some above, the results of recent attacks of peritonitis, and thus obliterated a good many of them before the operation.

Dr. Jewett :—Is that an advantage over loosening the adhesions at the time of operation?

Dr. Dickinson :—I do not know; it was rather a procrastinating measure, I being loth to operate.

The other ovary and tube were solidly matted down, but were liberated and left in situ. I suppose the chances of life or death were about even, because of the chance of poisoning the peritonæum in removing the tumor. There is excellent drainage. There is danger of injury to the ureter. The operation was done in Trendelenburg's position; all the intestines stayed above the promontory except the loop of small intestines adherent to the cæcum and appendix; the flabby walls of the bladder fell somewhat over the field

of vision, but otherwise it was easy to see everything, the patient being thin.

Dr. Skene :—The case is unusual in one particular, Mr. President, and that is the extraordinary development of the maxillary bone or bones and teeth, and the small size of the tumor. When such specimens often are found, the sac is generally much larger. One would expect to find such large bones in a sac extending up to the diaphragm. Probably the growth of the sac was arrested by the inflammatory trouble set up there. That may account for the age of the tumor and the size of the sac, with this bone development so much elder than the size of the sac would suggest. Even if the diagnosis of dermoid cyst was made no one would expect to find any such fine teeth.

Dr. Maddren :—Do these dermoid cysts ever go on to any uniform development further than that? They take on the development of the teeth and those parts, but they never contain a symmetrical development of any considerable portion of the skeleton. It would like to know if the dermoid cysts ever contain any more of the skeleton than we see. It is simply a reproduction of those parts, or may contain any considerable number of the parts of the skeleton.

Dr. Skene :—That is a question I have often asked myself—I do not know positively. I rather think not, at any rate I do know pretty well that if all the elements are there they are not arranged. They are not arranged so as to make a well-formed individual; that I know to be a fact. We find all the elements of the dermoid layer of the embryo, but some remarkably well developed and others not developed at all.

Dr. Dickinson :—There was no hair or fat in this.

Dr. Skene :—The fat must have been there and been transformed. You get adipose tissue, hair, toe-nails, teeth, bones, mostly maxillary, but I do not think you get lungs, liver, muscles and so on. The degree of development varies very much. That is the most extraordinary teeth and maxillary bone development I ever saw. I saw one that weighed 45 pounds where the teeth were present, a number of them, and one half of the maxillary bone; in another I saw a tangle of hair. They vary greatly in the degree of development. I never saw two alike; that is to say, the extreme development of bones and teeth here and the utter absence of hair, will be met by another specimen with an immense long tangle of hair and perhaps no teeth at all. I would like to know if any one has any experience as to whether all the tissues of the body are found in these dermoid cysts, or whether it is simply the

tissues belonging to the dermoid layer of the embryo. I have the impression that is the only kind of tissue you will find.

Dr. Jewett:—I have never heard of a case in which there was full development.

Dr. Dickinson:—Dr. Mundé had a case in which there was a switch of hair five and a half feet long, pictured in Thomas and Mundé.

Dr. Jewett:—That I saw.

THE DISCUSSION UPON APPENDICITIS BEFORE THE SURGICAL SOCIETY OF PARIS, AS VIEWED FROM THE AMERICAN STANDPOINT.

BY GEORGE RYERSON FOWLER, M.D.,

Surgeon to St. Mary's Hospital and the Methodist-Episcopal Hospital, Brooklyn.

In a series of successive meetings the Surgical Society of Paris discussed the treatment of appendicitis at length.[1] The discussion was chiefly of a clinical character. The consensus of opinion pointed to the great probability that inflammatory conditions in the right iliac fossa, in the majority of instances, had their origin in the appendix vermiformis; perforation of the latter, however, it was claimed, does not occur in all instances. Moty and Marchant held that it was possible for a genuine primary typhilitis to exist and go on to perforation. the appendix remaining intact. Under these circumstances the inflammatory swelling or tumor is located close to the iliac spine, while that originating in the appendix itself occupies a point midway between the iliac spine and umbilicus. These differential points are utilized in distinguishing between the two. Likewise when the disease originates in the cæcum the inflammation is more of a phlegmonous character, while that having its origin in the appendix partakes more of the character of a peritoneal inflammation.

Here is an indication pointing to the fact that the French surgeons depend upon the presence of a *tumor* in making the diagnosis of appendicitis. While the existence of a tumor is quite suggestive of an appendical abscess, yet when the disease has reached this stage, the surgeon who has had much to do with these cases realizes that the golden moment for a perfectly safe operation has

[1] Bull. et mém. de la soc. de Chir. de Paris, Vol. xviii.

passed, and that, when he makes the necessary operation for the evacuation of the pus he will be confronted with conditions which may prevent him from making a complete and satisfactory operation, i. e., the removal of the appendix, and compel him to substitute a but half-hearted and incomplete endeavor for a typical procedure on the one hand, or incur risks which he feels could have been avoided, and which fill him with dread and misgiving for days to come, on the other.

Nelaton pointed to the fact that the perforation very frequently occurs posteriorly, and therefore, prefers in making the incision, to place the latter rather in a position laterally and posteriorly than anteriorly and toward the median line.

The question of recurrent appendicitis was discussed by Terrier, Richelot and Delorme, who were inclined to attribute to these a tubercular origin. In those in whom no tubercular disease was found elsewhere, it was urged that early removal of the diseased focus was necessary to prevent general infection. Richelot and Delorme quoted cases in which the operation had been performed with this in view.

In view of the fact that neither microscopical nor bacteriological proof was obtained that these cases of supposed tubercular appendicitis were of tubercular origin, the experiences bearing upon this point were quite valueless. Terrier, however, communicated the details of a case which was undoubtedly of the character in question, the presence of the bacillus tuberculosis being indisputably demonstrated. While no better treatment than removal of the appendix could possibly have been instituted by Richelot and Delorme, yet a strange and anomalous condition appears when the former surgeon, having in one portion of the discussion placed himself on record as advocating early operation when the case is tubercular in character, later on appears as one of those who favor the opium treatment, when the disease is due to other causes. In other words, the remote possibility of general tubercular infection from the appendical focus is kept in sight, and preventive measures advocated bearing upon this possibility while the very great probability of perforation and immediate and fatal septic peritonitis in cases due to the infection of the bacterium commune coli or other irritating causes is completely ignored!

In the matter of diagnosis, some peculiar and interesting experiences were related, showing what difficulties may stand in the way of a proper appreciation of the true condition of affairs, in cases of supposed appendicitis. The most striking of these were those of Richelot and Dieu. The former related a case of a nineteen-year-

old girl who was supposed to be suffering from tubercular appendicitis, in whom evidence of tubercular disease elsewhere existed. Microscopical examination of the tumor and two lymphatic glands removed showed the specimen to be a tubular epithelioma. Dieu's case was likewise unique: A patient presented a perfectly typical picture of recurrent appendicitis. The abdominal section revealed an enormous cavity in the right iliac region, which was filled with blood coagula and recently effused venous blood. A slight rupture of the muscular tissue in the ileo-psoas mass was found to be the source of the hæmorrhage. The patient was a "bleeder," and a fatal result followed from excessive loss of blood. The post-mortem revealed only what was found during the operative procedure.

The indications for operation also received a fair share of attention. The views advanced by the surgeons present differed somewhat upon the point of operative interference. While the latter is advocated under conditions in which a tumor containing pus is present, rupture is imminent, or general peritonitis is present from rupture having already taken place, the advocates of *early*, that is to say *preventive*, operation were certainly in the minority. The French surgeons have evidently not yet awakened to the importance of the subject. Like their American and German confrères they will become more and more convinced, as the years roll on, with the terrible mortality from this disease, that a patient with appendicitis is in a far safer environment under the knife of a skillful and conscientious surgeon, than in the presence of all the uncertainties and dangers of a momentarily to-be-anticipated rupture of either an unprotected appendix, or an appendical abscess.

Among the advocates of early operative interference may be mentioned particularly Reclus and Schmit, of Versailles. Even these surgeons look upon the appearance of a tumor as a sufficiently early indication for the operation. The first named would operate in the presence of a tumor, even though the latter was actually decreasing in size. He argues that the presence of a tumor always means the presence of pus, and even though this apparently disappear, yet there is sufficient infection remaining to initiate a fresh inflammatory condition. This may be repeated three or four times, each time recovering under treatment by opium, until at last the patient suffers an attack in which rupture takes place and he is lost. In all probability, in each one of these attacks, one or another physician records the case of this unfortunate patient as one cured of appendicitis by the opium treatment, until he is "cured" once too often in this manner, and lays down his life as

a sacrifice to the ignorance, stupidity and carelessness of his attendants.

On the other hand there developed, in the course of the discussion, as before intimated, a very decided opposition to even so early an operation as that advocated by Reclus and Schmit. Berger, Moty, Marchant, Richelot and others evidently still cling to the fallacy that opium *cures* appendicitis. They quoted cases thus supposed to be cured, even after the indubitable presence of pus, as an argument, on the one hand, in favor of the opium treatment, and on the other cited examples of recurrences of the disease, despite operation, followed by a fatal result.

It would appear, therefore, from this that the operative procedure as instituted, related solely and entirely to the evacuation of the pus. It is to be regretted that a sufficient boldness has not yet found its way into the French surgical mind to impel what may be considered a really *early* operation, i. e., an operation performed before the occurrence of a tumor and before the existence of pus; hence, an operation which shall be, in the true sense of a conservative operation, and one which shall rid the patient once for all of the source of his frequently returning peril. Appendicectomy will be the operation of the future, and the mere opening of an abscess looked upon as a rather unfortunate termination to a case of appendicitis, much less a "cure" by opium. Those who delude themselves with the belief that they have cured appendicitis by means of opium, should reflect and ask themselves whether or not the patient really has not rather unexpectedly escaped death, and no thanks to his medical adviser. On the other hand, who can ever tell of the thousands and thousands who, either from a mistaken diagnosis or criminally ignorant therapy, have been soothed with a sense of false security until the septic matter has invaded the peritoneal cavity and found its way into every interstice; when the convenient opium pill no longer calms the pain, and, finally, the ever-present hypodermic syringe is called into requisition to tide them over and beyond the dark valley of the shadow. Again and again are we asked to operate as a last resource in cases in which the contracted pupil and the skin drenched with perspiration, blue finger nails, congested skin, small and flickering pulse and finally bulging and tympanitic abdomen give the lie direct to the attending physician's statement of only a few hours ago that the patient was "doing well." The day will surely come when those who permit patients to reach this extremity under the delusion produced by opium and an over-weening confi-

dence in the *vis medicatrix naturæ* will be called before the bar of professional opinion and asked to give an account of their stewardship.

Already the public are beginning to appreciate the importance of the subject. It is no uncommon thing for laymen to inquire with some anxiety of their medical attendant, if their disease is not located in "that place where lemon pits lodge," and if some operation will not be necessary for their relief. It not seldom happens that a surgeon is called in because of a demand on the part of the patient, and in the face of an unwillingness to admit the possibility of the necessity for an operation, on the part of the medical attendant.

The discussion before the Paris Surgical Society was as barren of anything of importance in the way of operative technique as it was of a proper appreciation of what the exigencies of the disease called for from the therapeutic standpoint.

The suggested procedure of Nélaton, of making the incision a latero-posterior one because of the frequency of a posterior perforation, would be worthy of consideration were it not for the fact that advanced surgeons operate to-day for a removal of the appendix as much as for the evacuation of the pus. The incision of Sands, along the outer border of the right rectus muscle, therefore, or in case of doubt as to the intra-abdominal conditions, the median incision, appeals strongly for preference.

Take it all in all, therefore, this discussion upon appendicitis before the Surgical Society of Paris is far below the average quality of work put forth by that distinguished body. The opinions held and views expressed, to American readers, savor strongly of those held and advanced in this country at least a decade ago. Between the least advanced who still cling to the opium delusion, and those most advanced, who have progressed no further than to insist that operative procedure must be instituted when a tumor is present, there is, to be sure, much to choose. That there is much need for missionary work, both abroad and at home, is only too true, but after following up the lines taken by this discussion to their utmost limits, the conviction is forced upon one that our French neighbors have either not been accurately reported, or have drawn about themselves a cloak of so-called, but misnamed, conservatism, which it would be well for them, as viewed from the American standpoint at least, to shake off.

OBSERVATIONS ON THE IMMEDIATE TREATMENT OF NON-PREVENTABLE MISCARRIAGE.

BY JOHN C. MAC EVITT, M.D.

Read before the Association of Alumni of St. Mary's Hospital.

Accompanying the honor of a request to present a paper to this Association, the intimation was conveyed that a subject bearing some relation to gynæcology would prove the most acceptable. I have endeavored, while carrying out the suggestion, to make my selection one of practical interest—one in which you all have had some experience within the hospital if not in private practice, enabling you to express your views and experience, thus drawing out a discussion, the object of our present meeting. To further this I will not enter into the subject exhaustively, but jot down my ideas as they arise, based entirely upon my personal experience.

To carry out the instructions of modern writers in the treatment of surgical cases antiseptically, one is forced to believe that they take it for granted that hospital conveniences are always at hand. We all know the confidence the hospital walls instil, and the absence of their environments is one of the causes that lead to atrophy of the enlarged cerebum of the ex-house-surgeon, and make us all feel a certain want of confidence when thrown entirely upon our own resources in the treatment of these cases. Where an abortion is, through existing symptoms, determined to be unavoidable, the question of treatment at once presents itself. If it were but possible to establish therapeutical rules in such cases the skill and judgment that give preëminence to a doctor above his fellows would be wanting, and the professional ignoramus would stand on a par with the erudite physician.

The cause, condition of the parts, general state of the patient and her surroundings are all to be quickly and intelligently considered in solving the problem of treatment.

Have you not, as a rule, found upon being called to a case, two symptoms taking precedence over all other, and for the alleviation of which your aid was chiefly sought. I refer to pain and

hæmorrhage. Pain, if very severe, for the time being at least, we overcome by internal or hypodermatic medication, and we at once address our efforts to the control of the more alarming of the two, the bleeding.

Placing your patient upon her side, you make a digital examination, and as a rule find the vagina filled with clots, the removal of which is generally followed by a more or less severe hæmorrhage. The point of the finger now reaches the internal os, and just within you feel the presenting fœtus, that is, if the product of conception has advanced that far, or if it has already been expelled the remaining membranes composed of the placenta and amnion or deciduæ and chorion, if the abortive effort is made before the third month. Placing the disengaged hand externally over the fundus of the uterus, you press it downward, and endeavor with the engaged finger to secure an idea of the relation of the parts, and if possible remove the presenting mass; failing in which, you have at your option three methods of procedure for immediate application, viz: Curettement, as a rule preliminary dilatation being necessary; vaginal tampon and the administration of ocytocics; ocytocics with application of external pad and T-bandage and fluid extract of ergot internally.

Treatment by curettement is now generally adopted by the progressive members of the profession, and yet I am in doubt as to its always being advisable. It is the exception when I resort to it, as I prefer to keep my patient under observation for a few days and judge of the necessity of its performance. I have so much respect for nature that I do not go to her aid with artificial assistance until she calls, and her voice is as easily distinguished as it is imperative in its tone. Have you not often wondered if the advocates of curettement have given due consideration to the lack of knowledge on the part of the general practitioner to its skillful performance. The use of the instrument, particularly the sharp one, requires practice, and I venture the assertion that seventy per cent. of the physicians engaged in general practice do not possess the requisite skill. It is not the easiest thing in the world to distinguish between the uterine tissue proper and the pathological material so closely adherent. A blind scraping can, of course, be resorted to, yet a delicate and educated touch is necessary to recognize through the curette the uterine mucosa, the integrity of which, if destroyed, opens a way for the absorption of the putrefactive germs that are active within the decomposing membrane. Acute and chronic pelvic inflammatory deposits are often the cause of abortion, and you all know how slight the violence to

the uterus that it is necessary to light up a general peritonitis in such cases, and unskillful manipulation is likely to extend such; furthermore, I would ask, is it justifiable in the practitioner coming from the bedside of infectious diseases, to expose his patient to the danger of contamination which the operation presents. Do not understand me as arguing against this most valuable operation but only against its indiscriminate performance by those legally but not practically qualified; such should seek the service of the specialist.

The old treatment of tamponing the vagina is by no means obsolete, and when properly performed has an individual value which no procedure can supplant. As often resorted to, by packing the vagina with bunches of cotton, it is both useless and dangerous—the cotton, by absorbing the serum, diminishes in size, and is easily washed out, or else lies loosely in the cavity; the hæmorrhage but little interfered with by its presence. I find many physicians make use of pieces of sponge, and provided they are fresh and sterilized as tampons, I can see no objection to their use, except their doubtful utility. Kite-tail tampons, made after the manner of Sims', and applied with the aid of his speculum, packing each successive piece around the cervix, and then packing the vagina, will prevent serious hæmorrhage. The necessity of their frequent removal to prevent infection, and the time and trouble it requires for their proper application, is a matter of importance to be taken into consideration by the physician if he intends to make use of them during the abortion, but to check hæmorrhage and cause expulsion of the uterine contents I hold them indispensable.

The hæmorrhage is most alarming in the earlier stages of the case, due of course to the commencing separation of the ovum and chorion, or at a later stage of the placenta. It is in this stage that the kite-tail tampon finds its greatest utility, acting not alone as a mechanical hæmostatic, but as an excitant to uterine contraction.

If the hæmorrhage is not severe, external pads of sterilized cotton, held in position by a T-bandage, will serve a good purpose in preventing anxiety on the part of the patient, and acting as a barrier to the admission of germs from without; they have the advantage of being easy of application by an ordinary attendant, and can be frequently removed for the sake of cleanliness.

I trust you will not consider it self-adulatory when I state that during thirteen years' practice, hospital and private, I have

yet to lose a case under the following summary of its treatment, asking you to overlook the repetitions involved.

Morphine I administer for the double purpose of relieving pain and softening the cervical tissue; facilitating the dilatation of the os. If, upon an examination, I find the membranes protruding, by a gentle, twisting motion, with two fingers, I attempt to remove them. Should I be prepared with forceps or vulsella, I would use either in preference to my fingers, owing to the better purchase obtainable. If the membranes do not present, yet are perceptible to the touch above the internal os, I attempt dilatation with my finger, and if successful, endeavor to sweep around and above the mass separating and delivering it. This accomplished, I irrigate the uterine cavity with a five per cent. solution of carbolic acid, or a 1-10000 solution of the biniodide of mercury. In cases where the membranes or placenta remain firmly attached beyond the reach of the finger, provided there is no fœtid discharge, showing putrefactive changes, I order vaginal douches of the same strength; apply kite-tail tampon; order twenty mimim doses of the fluid extract of ergot, and leave my patient until my next visit, sometime within twenty-four hours. The use of ergot is prohibited in these cases by some teachers, and the experience of the members will be of interest. Does it not seem paradoxical to administer ergot and morphine at the same time for contrary effects? It is only seemingly so; the morphine blunts the sensibility of the nerve periphery, and lessens resistance. On revisiting my patient, and finding the temperature and pulse normal, discharge free from odor and hæmorrhage slight, I order the vaginal douche and ergot continued, but substitute the external pad and T-bandage for the kite-tail. This treatment I continue until the contents of the uterus are expelled or the temperature, pulse or character of the discharge demand curettement. Whenever, then, you get a history of a chill, with or without increase in pulse, fever, hæmorrhage or presence of a fœtid discharge, curette thoroughly, irrigating afterward with the biniodide or carbolic solution of the strength mentioned; following which, unless the cervical canal is well open, insert a strip of iodoform gauze, and you can then leave your patient, feeling that you conscientiously performed your duty. Further treatment will depend entirely upon the nature of the symptom, about which I have naught to say, as these random remarks were supposed to be confined to the requisite treatment, but into which I injected digressions.

THE TREATMENT OF ATROPHIC RHINITIS.

BY CHARLES N. COX, M.D.

In the treatment of atrophic rhinitis, the symptom that most urgently demands our attention is fetor. It is nearly always present. It is the one symptom that overshadows all others; so much so that former writers called the disease ozæna. In fact some modern authors give this latter name as a synonym, but ozæna is now generally regarded as a symptom, and may accompany other diseases than atrophic rhinitis, notably antral disease and necrosis.

The odor is hard to describe, but its peculiar, pungent, musty, sickening character, having once been recognized, is forever impressed on one's memory. The patient, fortunately for himself, is not usually conscious of the odor; but it is often so noticeable to others as to make his presence unwelcome, to say the least.

There is one other symptom that is annoying to the patient himself. That is dryness and obstruction of the nostrils due to accumulation of crusts. When the passages are cleared of these crusts, there is, of course, owing to atrophy of the turbinated bodies, plenty of room; but the crusts often become so large as to produce almost total obstruction of the nostrils, which brings about mouth-breathing and its attendant train of evils, the same as if hypertrophic rhinitis were present.

The treatment of atrophic rhinitis naturally divides itself into *local* and *general*. The local treatment can be summed up in the words, *cleansing*, *deodorizing* and *stimulating*. The nasal passages should first be thoroughly cleansed with a coarse spray of an alkaline and antiseptic liquid. There is perhaps nothing better for this purpose than the well-known Dobell's or Seiler's solution. Where a cheap compound is a desideratum for the patient's use at home, I order the following:

℞ Sodii biborat.
Sodii bicarb. aa ʒ i.
M. S.—A teaspoonful in a pint of warm water.

If the atrophic process has involved both nares, and there be no obstruction, these solutions can be used with the nasal douche, and I am of the opinion that, where there is no danger of the liquid being forced up the Eustachian tubes on account of stenosis of either side, this method is the most efficient for the hands of the patient. Of course, one cannot be too careful in selecting cases for the douche on account of the danger of producing aural trouble;

consequently, the surgeon should be careful to ascertain if the case be a proper one for the use of this apparatus.

Having decided to place the douche in the hands of the patient, there remains the important duty of impressing upon him the danger of allowing the stream to flow with too much force. The vessel containing the solution should be on a level with the forehead —not higher. The patient should be further instructed not to swallow during the flow of the stream; to allow one half the quantity used to flow in one nostril and out the other, then to invert the process for the remaining half; and not to blow the nose immediately after completion.

Should there be a tendency to crust formation in the naso-pharynx, it may be difficult to cleanse that cavity by the above method. It will then be best to attach a post-nasal tube to the douche and direct the stream up back of the palate. This, I find, is not as easy for most patients to perform as one might suppose and, unless they are properly instructed, it is likely to be done in such an inefficient manner as to be of no utility. It is not sufficient to tell the patient to do so and so—one must see that he does it. I usually take a post-nasal tube and pass it up behind the palate, allowing the patient to see the manipulation in a mirror placed before him; then place the tube in his own hands and have him pass it upon himself. After a few attempts he is usually able to do so without the aid of a mirror.

All that has been said in regard to the employment of the douche as a means of cleansing, applies more particularly to the patient's use at home. The spray produced by compressed air apparatus, is as good as can be desired for the surgeon's use in his office, except in cleansing the naso-pharynx. In my experience, the spray is not a satisfactory method of cleansing this cavity; for, in most instances, the velum is drawn up with such force that, although one may attempt to draw it forward with a retractor, nebulization is so interfered with as not to reach the vault. I prefer, therefore, for my own use in the removal of crusts from the naso-pharynx, a post-nasal syringe.

Tightly adhering crusts which resist the action of the spray, can often be removed by a probe carrying cotton saturated with albolene or any liquid vaseline. Harrison Allen has suggested an ingenious method of removing these crusts.[1] He applies a galvano-cautery electrode to the crust and turns on the current. The crust adheres strongly to the electrode and is brought away with it.

It has been suggested that the nasal fossæ be cleansed by pushing in successively, until the nose is filled, rolls of absorbent cot-

ton twisted upon a darning needle. The pressure of these pledgets excites watery secretion and when they are removed they bring away all previously adhering masses.

Thorough cleansing of the parts previous to subsequent applications is of the utmost importance and cannot be too strongly emphasized. The application of stimulating and alterative agents to a mucous membrane covered with muco-pus and inspissated mucus will effect little or no change, and a disease which is, at best, difficult to alleviate and almost impossible to cure, will remain without visible improvement; while, with care in the cleansing process and judgment in the choice of additional treatment, the patient can, in a majority of cases, be placed in a comfortable condition, at least.

As a stimulant, alterative, and deodorizer, I would place *aristol* at the head of the list. I have been using this remedy for about two years and I am constrained to say that it has given more satisfaction than any one other agent I have ever employed in the topical treatment of atrophic rhinitis. It whips up the serous glands to renewed activity, thereby relieving the dryness and lessening the tendency to crush formation; it adheres closely to abraded surfaces when insufflated, acting as a protective and cicatrizant; and it deodorizes most effectually without substituting any odor of its own. The patient should use this from two to four times daily, with an auto-insufflator, after thorough cleansing of the parts.

A spray of a very weak solution of *bichloride of mercury* (1-10000) may be used for its antiseptic and stimulating properties.

Nitrate of silver is recommended by Seiler,[2] and is useful in stimulating the glands of the mucous membrane; also as an application to abrasions, particularly those on the septum which often are the source of considerable hæmorrhage, due to the habit, which many patients have, of picking the nose and forcibly removing adhering crusts from this locality. If a spray of nitrate of silver is to be used for its stimulating effects, the solution should not be stronger than gr. x.—f ℥ i.; but if the salt is to be applied to abrasions only, a sixty-grain solution may be used—or even the solid stick. As emphasized by Seiler himself,[3] nitrate of silver in any form should never be used in *hypertrophic* conditions.

Filling the nose with *plugs of cotton*, as recommended by Gottstein,[4] will excite secretion, as any foreign body would, and thereby prevent the formation of crusts and correct fetor; but the attendant discomfort is such as to make this an undesirable method of treatment, when the same results can be accomplished by more agreeable means.

J. N. Mackenzie[5] advocates dusting of excoriations with powder of *calendula*, or the application of a glyceride of the same.

Adolph Brouner[6] has found *trichloracetic acid* in from 10 to 15 per cent. solutions of decided service. After freely cocainizing the mucous membrane, the solution is rubbed into the parts by means of a cotton-armed probe. A snuff consisting of aluminum-acetico-tartaratum, menthol, camphor, and boric acid is used subsequently.

I have had good effect from the use of a snuff consisting of equal parts of *iodol*, *tannic acid* and *boracic acid*, as recommeuded by Turban[7]. A little is snuffed, or better, insufflated, up the nose five or six times a day to begin with, and gradually reduced in frequency.

Saccharine has been recommended by Felici[8], for the correction of fetor accompanying atrophic rhinitis. After thoroughly cleansing the nasal passages, he employs one-half gramme to one gramme of saccharine in a douche of alkaline water, the better to dissolve the saccharine. He claims that saccharine, in the dose indicated, is well tolerated, produces no trouble, with the exception of an unpleasant sensation of a powerfully sweet taste, and as an antiseptic in the treatment of ozæna, he believes it superior to sulpho-carbolate of zinc and to boracic acid. In a few patients smarting and slight headache were produced by doses of 1 to 2 grammes.

Delavan[9] claims good results from the use of the *galvanic current*. He applies the positive electrode to the nape of the neck, while the negative is wrapped in moist absorbent cotton and applied directly to the nasal mucous membrane. A current of from 4 to 7 milliampères is employed, the duration of the application being from 7 to 15 minutes, or until a moderately watery secretion is induced.

The *electro-cautery*, as suggested by Fraenkel and strongly advocated by Sajous,[10] may be attended with good results, especially in the earlier stage of the disease; but it should be used with the greatest caution, lest great mischief be done, since the essential feature of the morbid process is loss of tissue, a condition which might be enhanced by so destructive an agent.

The electrode should be applied quickly and at white heat, so as to produce superficial and stimulating effects only. Suppurative areas are to be wiped with cotton and a flat electrode applied. Not more than one or two applications on each side should be made at a sitting.

Skin-grafting has been tried in atrophic rhinitis, but seems not to have accomplished much. Were it not for the difficulty of re-

taining the grafts in position and maintaining the parts in an aseptic condition pending union, it would appear that good results might be obtained.

The employment of *massage vibrations* to the nasal mucous membrane has recently been advocated for atrophic rhinitis. Not very satisfactory results have thus far been obtained.

The general treatment of atrophic rhinitis should be directed toward the removal of any morbid conditions or constitutional defects, the details of which do not come within the scope of this paper. *Sea air* and *sea baths* are, as a rule, to be recommended; and sea water snuffed up the nose during the bath will prove agreeable and beneficial.

Finally, the hoped-for results of the treatment of this rather intractable malady depend upon incessant perseverance on the part of both physician and patient, the reward of which will be alleviation in all cases—cure in a few.

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A DESCRIPTION AND PHOTOGRAPHS OF A COACH DESIGNED FOR THE REMOVAL OF INVALIDS—(CONSTRUCTION SUGGESTED BY THE WRITER).

BY GEORGE MCNAUGHTON, M.D.

Read before Medical Society County of Kings, June 20, 1893.

I hope I may be excused for presenting a thing so large, but as I have never presented a needle holder, or an ether inhaler, or an obstetric forceps, or a measuring machine, I crave your indulgence to this extent. These photographs are unnecessarily large, and the coach is wrongly named. In the photographs an Invalid

Coach, it should read an Invalid's Coach. Vehicles for the removal of incapacitated persons have become a necessity, and at this time all cities and most large towns have one or more for that purpose.

The ambulance system has been much improved, until now, a person who has been injured or taken suddenly ill, will certainly receive professional care and an easy transfer to a hospital or his home in a very short space of time. This is a humane institution and should receive the hearty support of the public. There is a class of incapacitated persons, however, who have not been so well provided for. I refer to private patients, who for some reason we wish to remove, perhaps to another house, to or from a hospital, railroad station or steamship. Instances of this kind probably occur to most of us several times a year.

It is true that arrangments may be made, by which one of the public ambulances may be secured for this purpose, but it is not always an easy matter, besides it disturbs to a certain extent the discipline of the public ambulance system. I may also mention the fact that many people object to making use of a public conveyance of this sort, for reasons which are perhaps to a certain extent sentimental, at the same time perfectly apparent. The first objection which they will mention is the conspicuousness of an ambulance, due to their peculiar shape, the gong, the word "ambulance," which is usually painted on its sides, and the distinctive uniform of the surgeon, all of which features are necessary to the proper carrying on of the public ambulance system, but which are objectionable when we wish to make use of them for the removal of private patients. Some people also object because of the possible condition of the person who previously occupied the stretcher; he may have been dead, bleeding or drunk. The odor from the dressing, drugs, etc., make another objectionable feature. Having had to meet these proper arguments on the part of the people and having each time wished that some other means for the removal of private patients might be at hand, I persuaded Mr. R. R. Bennett, of 261 Greene avenue, to have an invalid's coach made which he has done, at an expense of nearly $1,200, and I wish here to state that Mr. Bennett is the sole owner and proprietor, and he deserves the entire credit of risking the amount invested in, so far as I am aware, an entirely new enterprise, expecting that the profession and people will make use of this coach sufficiently often to enable him to continue this service in a manner satisfactory to all concerned.

This coach is of the style known as "The Berlin" and is not

calculated in any degree to attract attention. I am sure one would not notice that it is different from the ordinay road coach, except perhaps that it is a little handsomer. In size, it is a few inches longer and a few inches wider, a difference so slight that it will not be noticed. The wheels are tired with rubber and the springs are extra long, which makes it a very easy riding vehicle. The back part of the coach is hung on very strong hinges, and the portion above the seat can be raised and fastened by catch clamps provided for the purpose. The frame-work of the bed is fully six feet in length, and twenty-six inches wide; when in position rests on



the right of the inside of the coach. By an interesting arrangment of levers, the bed may be placed in the centre of the coach to facilitate the putting of the patient in the carriage. An air mattress and pillow are used. Two persons beside the patient may ride very comfortably on seats eighteen inches wide, one at the head, the other at the feet of the patient. The coach is finished in hard wood on the inside, so that it can be easily and thoroughly cleaned.

If the patient is not entirely incapacitated, he may enter the coach by the side door and lie down when he feels like it. Two horses will be necessary to draw the coach.

It is Mr. Bennett's purpose to keep this invalid's coach in perfect order and ready to respond at all times to calls for its use, in this or adjoining cities, if, of course, it will not be used to convey persons ill with contagious disease.

He will furnish a surgeon, if requested to do so, but prefers that the family physician or some one selected by him shall serve in that capacity. Arrangments have been made for heating the coach in cold weather.

I have presented this matter to you in the hopes that the existence of this Invalid's Coach will occur to you when you have



occasion to make use of such a vehicle. This coach has been used once or twice; once to convey a gentleman from 95th street and Fourth avenue to St. Peter's Hospital. He was suffering from an attack of rheumatism, and when he arrived at the hospital he rather objected to being taken out, he was so comfortable during the journey.

DISCUSSION.

DR. BURGE:—I think we should congratulate the Doctor for giving us this opportunity of having the sick more comfortably and more carefully carried than in the past.

The question was asked, whether any cards giving the names of the proprietors, etc., had been sent to the profession.

Dr. McNaughton said it was the intention to do so.

Dr. Skene:—I think, Mr. President, this is so important a matter that there is reason for a brief discussion of the subject. I presume we all fully appreciate the importance of it. This comes to us in a somewhat different way from most new things in medicine; they generally come as filling a long felt want—this is a necessity which we hope our patients will comfortably fill, and to their advantage. Again, it comes in to supplement or to do for responsible people what the ambulance system does for the unfortunate and those who are unable to help themselves. It seems to me more difficult to secure all the comforts and advantages to people who can afford to pay for them than it is for the more unfortunate; in other words, in this city and most others more provision is made and more money spent for the care and comfort of the sick poor than for the rich who are sick. I do not think, sir, that it needs a word to be said in favor of it as a means of transferring sick and injured people.

I can see, I think, another advantage. We all know how important it is to get convalescing invalids out in the open air for a ride or drive, and I often, personally at any rate, desire to send them out before they can go in the ordinary coach or carriage. There is an advantage which may have been overlooked in this ride. I find that it does what neither massage nor any of the movement cures will do, and that is, the vibration which takes the part of percuter, which certainly has as much of a beneficial effect upon the general nutrition as central galvanism or massage, and when this is combined with a change of air and the pleasant excitement, change of scene, and so on, I think it can be used as a therapeutic means to very great advantage, and while the primary object is to transfer sick people, and I have no doubt that it will be kept constantly in use for that, or nearly so, I think it will also be employed for the purpose I have mentioned. I have given a good deal of attention to the advantages of the motion from the vibration of the carriage. I do not refer especially to the excessive concussion that we all encounter in the ordinary streets, but to go on some of the better paved streets and from there to the Park, where the motion is such that it can be borne by an invalid, I really think the advantage can hardly be over-estimated. I might dwell on this and give experiences, but the mere introduction of the subject, I think, will be sufficient to call your attention to it, and I have no doubt that it will be as clearly comprehended by all

the gentlemen present as I wish it to be. Certainly this is something very gratifying to all of us.

I think it would be only fair to give the inventor the credit. I know him so well that I know his modesty would have been the death of him long ago if his friends did not come to his aid. Dr. McNaughton supplied the brains for this coach and the other gentleman the money, and I think the Doctor has served us as well as if he had presented us with a new ether inhaler or any of the many new inventions that are constantly being presented to us.

DR. MCNAUGHTON:—In regard to the charges for this vehicle, the owner will have to charge more than for an ordinary coach, as he has to furnish an extra man.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 16, 1893.

Vice-President, Dr. Geo. McNaughton, in the Chair.

There were about seventy-five members present.

The minutes of the April meeting were read and approved.

The Council reported favorably upon the following applications, and recommended that they be elected to membership:

Dr. Albert C. Bunn, Univ of Buffalo, 1867; W. S. Torrey, Univ. City of N. Y., 1884; Fred. K. Wood, Coll. P. & S., N. Y., 1889.

The Secretary presented the following applications for membership:

Dr. Wm. H. Davis, 372 Stuyvesant Ave., Univ. of N. Y., 1881; proposed by Dr. D. Myerle; Dr. Charles Jewett.

Dr. G. A. Walther, 461 Bedford Ave., L. I. C. H., 1892; proposed by James L. Kortright; Dr. D. Myerle.

Dr. Lawrence P. A. Magilligan, 56 Berkeley Place, Bellevue Hosp. Med. Coll., 1893; proposed by Dr. Francis J. Magilligan; Dr. Victor A. Robertson.

Dr. Lewis H. Miller, 391 Lewis Ave., P. & S, 1880; proposed by Dr. C. N. Cox; Dr. Geo. McNaughton.

Dr. Henry B. Cogswell, Greene Ave. cor. Marcy, Bellevue, 1885; proposed by Dr. E. A. Day; Dr. D. Myerle.

For Corresponding Membership.

Dr. Albert Leffingwell, Summit, Union Co., N. J., L. I. C. H., 1874; proposed by Dr. D. Myerle; Dr. F. H. Stuart.

Election of members.

The following, having been favorably reported upon by Council, were declared elected to membership:

Drs. A. R. Harris, James M. McEvitt, Joseph E. Wells, Ashley A. Webber, Lloyd O Thompson, Edward E. Cornwall, Louis Conrad.

And as Corresponding members:

Drs. Arthur E. Bunn, Washington; Alex. J. C. McCatty, Jr., Jamaica, W. I.; Robert Swan, Sag Harbor, L. I.; Geo. E. Barns, Harriman, Tenn.; Chas. A. Oliver, Philadelphia.

SCIENTIFIC BUSINESS.

The Chair stated that Dr. Geo. D. Holsten was prevented by sickness from presenting his paper on "Neurotic (Reflex) Eczema."

The paper of the evening, entitled, "Cholera: Its Pathology and Treatment, with Special Consideration of Reports from the Recent Epidemics," was presented by Dr. Geo. T. Kemp.

Discussion by Drs. Hutchinson, Bartley, Shepard, Henry and Evans.

NEW BUSINESS.

The following preamble and resolutions having been submitted to the Council by Dr. Raymond, the Council referred them to the Society for their opinion, viz.:

WHEREAS, the Medical Society of the County of New York has, during the past few years, done much good to the cause of legitimate medicine by its prosecution of irregular practitioners in that county, and

WHEREAS, there is every reason to believe that there is a proportionally large number of irregular physicians in the County of Kings;

Resolved, that the Council be requested to report at the next meeting of the Society, whether it will not be wise to institute legal proceedings against all who are illegally practising medicine in Kings County.

After discussion it was moved:

"That it is the sense of the Society that we recommend to the Board of Trustees, if the funds are possibly obtainable, that they institute legal proceedings against some suitably selected case of irregular practitioner."

Seconded and carried. So ordered.

There being no further business, on motion the meeting adjourned.

D. MYERLE, *Secretary*.

Special meeting of June 7, 1893.

The President, Dr. John C. Shaw, in the Chair.

There were about fifty members present.

The President :—The object of this meeting is, as announced on the card, for the purpose of considering a proposition looking to a unification of all regular medical societies in Brooklyn, and there are, besides, some other matters which will be brought up by the gentlemen who have desired that the meeting be called.

Dr. J. H. Raymond :—Mr. President, I presume that if one of the fairies, in whom as children we had the utmost confidence, were to come before us to night and offer to us, as members of the medical profession of Brooklyn, a wish—that wish would be, after a little reflection, the unification of the medical profession of Brooklyn. I presume, sir, that if we were offered a second wish it would be that we might have for the medical profession of Brooklyn a building which would be ample, and which would be in its style and in its outfit representative of the medical profession of Brooklyn and of the County.

Now, sir, I am no fairy, nor am I the mouthpiece of a fairy, and yet I come before the Society to-night to make a proposition which I am authorized to make by a gentleman of this city—one who is deeply interested in the welfare of the medical profession, and who is willing, in case there is a corresponding willingness on the part of the profession of Brooklyn, to meet them more than half way to carry out both of these thoughts which I have uttered, as representing what I believe to be in the heart of every member of the profession in the city. The details of a plan of this kind, of course, have not been considered, nor indeed do I think it would be wise to consider them at the present time. The proposition is presented to us to-night in a general way only, and if we receive it as I hope we shall, in a broad and liberal spirit, the details can be easily arranged in the future.

The proposition is something like this: That if the medical profession of Brooklyn will, as a united profession, form an organization something on the plan of the New York Academy of Medicine, although not of necessity following exactly the lines laid out by that body, and will select in the city of Brooklyn a suitable site, and will erect upon it a building such as I have described—a building in which there will be ample meeting rooms, where there will be facilities for a library and reading room, a building in which one who has a library, and who desires to leave it to the profession may be assured that it will be protected for all time—if the medical profession are willing to do their part in erecting such a building,

the gentleman of whom I have already spoken will take a very large share in the enterprise.

In order to bring this matter before the profession of Brooklyn I knew of no other way than to go before the medical societies of the city. Of course it goes without saying that it is impossible to obtain the views of 800 men as individuals. We have in the city of Brooklyn, eight medical societies. There are some others, which are perhaps more in the nature of social organizations or clinical societies, whose existence I know of only in an indirect way, and some of these I have not conferred with. This has been not because I thought they ought not to be consulted, but because if I am not mistaken the members of these organizations are all represented in the eight societies, and, therefore, if we obtain an expression of opinion from these eight societies, we practically obtain the opinion of the whole regular medical profession of Brooklyn.

I have already had the matter brought before a number of the societies, and have asked them to express their wish in this matter, whether they were willing to take part in a discussion of the question, and if they were, whether they were willing to appoint in each society a committee of three, to unite with other committees in forming a Committee of Conference. I stated to them distinctly that this Committee is empowered to do nothing but to confer. It is not to adopt any plan, it is not to express the feeling of the society from which it comes as being in favor of an organization constructed on any given plan—it is simply to express the willingness of the organization which it represents to take a part in the formation of an organization such as I have outlined, and as a result to have such a building as I have already spoken of.

It may be of interest to the Society to know what action has been taken by the different organizations. The Kings County Medical Association has appointed a committee for that purpose, consisting of Drs. E. R. Squibb, T. M. Rochester and J. D. Rushmore.

The Brooklyn Gynæcological Society has appointed a committee consisting of Drs. A. J. C. Skene, Wm. Maddren and Charles Jewett.

The Brooklyn Dermatological and Genito-Urinary Society has appointed a committee consisting of Drs. S. Sherwell, J. M. Winfield and J. C. Raynor.

The Brooklyn Pathological Society has appointed Drs. F. H. Stuart, J. M. Clayland and E. H. Wilson.

The Brooklyn Surgical Society has appointed Drs. E. A. Lewis, H. W. Rand and H. B. Delatour.

The Laryngological and German Medical Society I hope to hear from through Dr. Jeffery, who has communicated indirectly to me that such committees have been or will be appointed.

Now, sir, I have nothing more to say except to move, in order to bring the matter before the Society :

"That it is the sentiment of this Society that such an organization should be formed, and that a committee of three, such as is asked for, be appointed to serve as a part of this Conference Committee."

Dr. A. Ross Matheson :—I take great pleasure in seconding this motion, and in doing so I would say that such an opportunity is one that we scarcely could have expected, and one which in all probability will never again be repeated.

In the matter of a permanent home for this Society, and for the several societies composed largely of members of the Medical Society of the County of Kings, I have, as some of you are aware, been more or less interested since the time when I advertised for a site, which resulted in the purchase of this property. This at that time was the best that we could do, but time has demonstrated that this place is entirely too small for our numerous family, and entirely inadequate for the wants of this Society. The Trustees have during the past eighteen months canvassed various pieces of property and several eligible sites are available, but here the matter rests. We cannot advance, even if we possessed the indomitable courage and enthusiasm of our friend Dr. Emery—enthusiasm will not give us the necessary funds. We must have the necessary collateral in order to secure such a building as we require. This building must be at least 40 by 60 feet in its dimensions, three stories and cellar, built of good material, presenting such architectural features as all good buildings should possess, and such a structure will cost at least $60,000. I am speaking advisedly in this matter; we cannot do it for $30,000, and unless we can raise 60 per cent. of this amount we would better not undertake the matter; but this plan which Dr. Raymond suggests makes the way clear. Some objections may be raised on the ground that the Medical Society of the County of Kings may lose its identity in this new organization, but such is not the case. We can retain our organization as a Society, we have our library which will be open to all the profession, we have our Medical Journal with whatever value attaches to the plant, and there is no doubt but such arrangements can be effected as will secure to us permanent recogni-

tion of whatever interests we may contribute towards the new building.

For these reasons I take great pleasure in seconding Dr. Raymond's motion.

A vote being taken, the motion was declared unanimously carried.

Dr. McNaughton moved that the Chair select a committee of two from this Society to act with himself, forming this Conference Committee that is asked for.

Seconded by Dr. Wm. Maddren, and unanimously carried.

In accordance with the motion, the President thereupon appointed Dr. Z. T. Emery and Dr. Fred D. Bailey to act with himself as such Conference Committee.

On motion, the meeting adjourned. D. MYERLE,
Secretary.

BROOKLYN GYNÆCOLOGICAL SOCIETY.

Meeting of March 3, 1893.

SKENE'S ENDOSCOPE WITH OTIS' ATTACHMENT.

Dr. Skene:—You all know that for fifteen or sixteen years I have been using an endoscope for the examination of the urethra in women, which is simply a glass tube closed at one end with a mirror in it, that can be moved to and fro, illuminated by the head mirror, throwing reflected light upon the mirror in the endoscope.

The advantage of this endoscope over anything else that had been in use, or rather over the open endoscope, is the fact that it enables one to examine the urethra and the neck of the bladder thoroughly, because with one a little longer than this one which I hold in my hand, it can be carried into the bladder and completely closes the urethra and prevents the outflow of urine, and then by moving the mirror all around, the entire funnel-shaped neck of the bladder and urethra can be examined with facility. This has always been a most difficult thing to do; so much so that Dr. Emmet did, and I think now does, examine as follows: He opens the urethra, and then with a speculum through that opening examines the neck of the bladder, and by a finger in the vagina he inverts the neck of the bladder and brings it into vision through the button-hole in the urethra, and examines it in that way. I have tried that method of examination when it has been necessary to open the urethra for other purposes, but it was diffi-

cult, at least, for me, for the reason that there is always a little bleeding, and it is difficult to hold the button-hole opening open; there is an outflow of urine which interferes, and it is difficult to distend the bladder all around and see those rugosities or wrinkles in which painful ulcerations usually occur. The chief merit of the endoscope was that the examination could be made quickly and easily for the patient. I thought when the cystoscope (which was not in use at the time that I devised the endoscope) was perfected that we could examine the neck of the bladder fairly well, but I found that was impossible, and I was still obliged in those cases of trouble of the urethra, especially at the junction of the bladder and urethra, to use this endoscope, and I am obliged to use it now. This endoscope has never been a popular instrument, for the reason that it is difficult to use and requires a little practice, and unless one is skilled in the use of the head mirror it is difficult to throw the light in and keep it adjusted as you move the mirror around the endoscope. I presume that is the reason why it is not generally used. I believe that it has not been used very extensively except by some who have perhaps taken the cue from seeing me use it. I do not think it is an instrument that has been in general use, and that has made me wish that it could be improved upon, and while I have never had the time or ability to improve upon it, I saw at once when Otis described, which he did this winter, his improved endoscope, where I could utilize his invention to make this much more easy to use. Otis' endoscope is an improvement on Leiter's.

I tried Leiter's, but found it was no better than this with the head mirror, but the Otis improvement answered the requirements. It was intended for the open-ended endoscope that he uses in the male urethra, but I found I could adapt it to this one with great facility, and so I gave the hint to Tiemann, who immediately perfected the whole arrangement. I ought to say just here that it is nothing new; it is merely an adaptation of the Otis invention to this simple arrangement that I have been using for years. The difference between the Otis and the Leiter endoscope is this: the Leiter has got the electric light unprotected with a reflector behind it which you can move so as to throw the light into the endoscope; with the Otis improvement the light is enclosed and a lens is introduced in front of it so as to concentrate the light and throw it into the endoscope. I found it was easy to attach different sized endoscope mirrors. There is no reflector behind the Otis endoscope, but the light which is concentrated from the lamp by the lens is diffused

when it is thrown into the tube, and when there is no other incoming light but that, you can see the mucous membrane very perfectly. That is all there is to it, Mr. President—simply an attachment which helps me out, simply the Otis improvement attached to my own endoscope.

[Demonstration.]

Now with the Leiter cystoscope, with which you are all familiar, I have no difficulty in exploring the bladder if it will hold water enough to distend it sufficiently a little without an anæsthetic. If the patient has any self-control at all it is no more painful than passing a sound into the bladder, so that the whole bladder can be readily explored with this arrangement, except the neck of the bladder. Now with this Otis attachment to the old endoscope which I have described, the neck of the bladder and the whole urethra can be examined in a very little time, as quickly almost as one would examine the throat.

It makes it now an instrument anyone can use with very little practice, and the only reason I have shown it is because I believe that in literature a man who is able to make an apt and good quotation does the next best thing to writing something original.

The President:—I think we are to be congratulated as a Society that Dr. Skene has shown us this adaptation for the purposes indicated, by which not only the urethra but the bladder and the neck of the bladder can be explored.

Dr. Jewett:—Is the whole apparatus obtainable from Tiemann, and what is the trade name of it?

Dr. Skene:—Yes, my good friend, Mr. Pfarre, of T. and Co.'s, made the whole thing for me, and he deserves my thanks now as he has many times in the past. This glass endoscope with the mirror in it is known by my name. I have not thought of a name for it. I might call it Skene's endoscope with the Otis attachment, or perhaps the Otis endoscope with Skene attachment.

Dr Jewett:—I suppose a storage battery would not be applicable for this portable plant. It would be too heavy.

Dr. Skene:—It would do if you had one that you could have charged continually. The trouble I found with my storage battery was that I had to have it recharged so frequently that it was a good deal of trouble, but this battery made by Tiemann for the purpose is very handy, especially as it runs both the endoscope and the cystoscope, and I think the light in the endoscope is larger than the one in the cystoscope.

Dr. McNaughton: I would like to ask Dr. Skene if it is not

desirable to examine the inside of the uterus with the endoscope in the same way?

Dr. Skene: You can if you have a uterus that is retroverted or can be for the time being, so the uterus would be on a straight line with the instrument. There is no trouble about looking into the uterus with the urethral endoscope. I have never been able to use it, however, except in prolapsed and retroverted uteri.

The genesis of this endoscope for the urethra came about in this way. I had a patient that came from a long distance to have me determine whether she had malignant disease of the rectum or not. While she had trouble higher up than the usual location of hæmorrhoids it had not progressed far enough for me to determine by the touch whether it was an ulceration or an incipient malignant trouble. For some reason or other I did not have a rectal speculum at hand, and I tried to use a Sims' speculum, but there was irritation about the anus, and the patient would not permit me to use it. After the digital examination she had no more courage, and I could not introduce the Sim's speculum. Then it occurred to me that I could pass a large test-tube into the rectum, and with a laryngoscopic mirror, light and reflector I could examine the rectum, and I found that I could do so. In this way I was able to make a most perfect examination and to distinguish the difference between the ordinary ulceration or syphilitic ulcerations, and the proliferations of this epithelioma, and I made a diagnosis of epithelioma. The patient returned to her home, which was so far away that she could not come back, but her doctor reported that it developed and proved to be what I said.

Then it occurred to me that if I could examine the rectum in this way—and I do so now if I want to make any inspection; it is so much easier than the rectal speculum—I could by a similar instrument examine the urethra and neck of the bladder. I have used it to examine the uterus also, where I had a case of prolapsus and could get right at it and use a larger tube.

One has to be accustomed to one thing, and that is in cases of neoplasms, such as hæmorrhoidal tumors, when you introduce the tube the pressure upon the tumor drives the blood out of it; that is by pressure on the blood-vessels you drive away the tumor, but the color you see, and if there is any ulceration you see it, as well as the structure of the mucous membrane, and if there is any fissure of the rectum or neck of the bladder you can see it, because it unfolds the rugosities and the little ulcer is spread out on the glass so that you can see it perfectly, but you cannot see the size of the neoplasm. Again, in the urethra at the neck of the bladder

and meatus urinarius the pressure of the endoscope, if you use a large one, produces an anæmic condition, so that you cannot see the redness, but in the middle part of the urethra, which is a little wider, the mucous membrane is not pressed firmly against the tube, and you can see the true color there. If the inflammation has gone on to the exfoliation of epithelium you can see the erosions.

One of the first things I was able to do in the way of diagnosis, which made me have a good deal of confidence in this, came about in this way: A girl, who was at the head of the lace department in one of the large dry-goods stores, during the holidays was obliged to be on her feet from twelve to fourteen hours a day for four or five days continuously. She was seized with violent pain on urinating, such violent pain that she dreaded the act of micturition. She came to me and I gave her some medicine, but without relief. I thought when the holidays passed over and she rested she would be relieved, but she was not. She had no discharge from the urethra when I saw her, and she got but very little better. I made an examination of the urethra and found three or four hæmorrhagic spots, little black or reddish-black spots, and an areola of congestion around each. After treatment the inflammatory process subsided, and the ecchymosis disappeared after a while. Most of these spots were in the middle part of the urethra; one near the neck of the bladder. In the latter the redness around the little blood-clot was not visible at all; the black spot was there, but the redness was driven away because of the pressure of the endoscope, but the others showed the areola very nicely, and that enabled me to grasp the point of the deception caused by the pressure. When there is any question as to that when you have with the closed instrument or tube localized the diseased portion, the open-ended endoscope will show the nature of the trouble.

The President:—The Society appreciates most highly this very instructive instrument and the demonstration Dr. Skene has given us. I want to congratulate the Society that although we have no formal paper presented, we have the thoughts of gentlemen who are able from their experience and observation to give us material which is just as practical and valuable as the most learned paper.

Dr. Hyde:—I will refer to a case I operated upon about three months ago.

You remember I read in October a paper on amputation of the cervix for a certain class of cases of laceration of long standing,

where the degeneration of the tissues had become so great as to render improbable or impossible their return to normality under any operation for trachelorrhaphy. And you will remember also in the discussion that followed that Dr. Byrne went a little further and spoke of how very applicable that same operation was to a certain class of cases of sub-involution, or for a preternaturally elongated cervix. Very shortly after that I had a case come under my care which was undoubtedly a sequel to an injury during parturition some years previous. There was a very much hypertrophied uterus. I do not know that I ever saw a uterus so uniformly large in every way, cervix and body; it was so much enlarged that I should have supposed the lady to be four months pregnant if she had not been menstruating regularly. She had the peculiar cephalalgia that goes with some of those cases, especially this dreadful vertex pain which makes it so unbearable for those cases. Introducing a sound repeatedly, to be sure that I had not passed it into a tube, and mapping out in the most careful manner the whole interior of the uterus and the body of the uterus, I found the sound passed very readily in different directions, fully six or six and a half inches, and yet there was no evidence of any neoplasm of any kind. It was simply a case of sub-involution. The great weight upon the ligaments of the uterus had stretched them, and the whole pelvic tissues yielded under the weight until there was a prolapsus. If she walked at all or made any effort at straining or going up stairs, the cervix protruded from the vulva at least an inch.

I remembered what Dr. Byrne had said in his discussion about the value of the galvano-cautery in these cases; I remembered also what I had read in regard to the use of the galvano-cautery in some cases of sub-involution by German operators, and I decided to try it in this case. I removed about three-quarters of an inch of the length of the cervix and forced the uterus well up as high as I could and tamponed it to hold it in that position, and for no other purpose than to see if I could keep it in a normal position, remembering that Dr. Byrne had said that if you could hold the uterus up there for a short time you could not get it down again. I suppose there is a little point of adhesive inflammation probably, or some thickening of the tissues that helped to hold it in that position. The patient's uterus was so very large that I could not have said how long a time it would take to reduce its size; but before I had kept her in bed two weeks, on introducing the sound, there was only a uterus of three inches depth; she menstruated normally, without pain, and without any of her

neuralgias, and within two months the uterus was just about a normal depth, not over two and a half or two and three-fourths inches in depth, and she has never had any prolapsus since. She tells me that she can even dance, goes anywhere and everywhere, walks and runs up and down stairs with perfect comfort. The uterus falls no lower in the vagina than that of a woman in ordinary health, the cervix being perhaps a finger's depth from the vulva.

It was a surprising demonstration to me of what Dr. Byrne had said, for I could hardly believe, when he made that remark, that it could be borne out in every case, but this case certainly proved all that had been claimed for it. I did nothing further than amputate that cervix, as she is married and not over thirty-two or thirty-five, and it is not improbable that she might become pregnant again. I did not care to go up into the cervical canal with the electrode, but I satisfied myself that there were no deep cicatrices there that she might have any fear from hereafter, and I may say up to this time, and I have seen her quite recently, there is not the slightest evidence of any stenosis of the canal.

Dr. Jewett:—I would like to raise the question whether you would not get the same involution by the ordinary method of amputating the cervix such as described in Dr. Skene's book, by taking out two wedge-shaped pieces of the cervix, combined with a good curetting? Why should this method of amputation exert any specific effect upon the remnant of the uterus left behind? It simply amputates the portio, leaving a slough to come away afterwards. The current can have no specific effect. It acts simply to heat the instrument.

Dr. Hyde:—I do not like to differ with so eminent an authority as Dr. Jewett, but I do believe that there is a special value in the electric force in these cases. I have operated by the scissors and with the knife; I have operated repeatedly in cases of trachelorrhaphy, expecting and hoping to get a marked reduction in the sub-involution, and in some of them I get it, and in some of them I do not get it, but with the galvano-cautery I always get it. I have seen a great many cases and I have never seen it fail, and I cannot help believing that there is a value in the electric force that you cannot get with the knife or scissors. It certainly must have some powerful contractile force, and it probably stimulates the glands to more rapid absorption; it certainly has a force in every case that I have seen, far superior to knife or scissors.

Dr. Skene:—I do not know that my experience, Mr. President, would be of great value in this matter because my observations

have all been from a different standpoint. In amputation of the uterus, or any portion of it, for anything short of malignant diseases, I have no personal experience with the results of the galvano-cautery. So far, then, as the results of the galvano-cautery operation are concerned, I am entirely dependent upon others and upon the observations I have been able to make upon cases operated upon by others. From my experience with amputations or restoration of cervices, and the ultimate effects upon involution, I am certain that we can rely upon sub-involution being completed as a result of operating. I don't think I have ever seen a case fail, excepting in those who had suffered from post-partum general metritis, where, in addition to sub-involution, there is an important exudate in the entire uterus, the result of inflammatory action, and subsequent proliferation of connective tissue-cells, i. e., where the uterus is enlarged owing to the sub-involution and to the products of inflammation. That kind of enlargement of the uterus will not yield to amputation by any means, at least, if it does it is after a very long period. And so I think that in that class of cases it makes very little difference whether one uses the galvano-cautery or the knife. That it will reduce the size of the uterus somewhat I grant you, especially if a large surface is left to heal by granulation, as is the case when the cautery is employed. I may add, however, that restoration of the cervix or amputation, no matter how performed, don't give entire satistion in the management of this special class of cases. In cases of sub involution, pure and simple, the result of operations, especially restoration of the cervix, I think, invariably insures completion of involution. In fact, it sometimes does more than is required, it produces super-involution or atrophy of the uterus. This has been noted by several surgeons, and I am sure that I have seen it occasionally, especially in bad cases where it was necessary to go high above the vaginal junction to remove large masses of scar tissue.

While I must confess that I can see no good reason yet for using the cautery to amputate the cervix in cases of laceration and sub-involution, I am fully convinced that in malignant disease, whether in the cervix uteri, about the face, or anywhere, far better results will be obtained by the use of the galvano-cautery than by any other known method of operating. The heat will destroy tissue of lower vitality than the normal beyond where the wound goes, and hence the diseased tissue will be destroyed beyond the line of incision. This is observed after sloughing of the cauterized tissues, when it is seen that the sur-

face is irregular, showing that the diseased tissue has been destroyed and the normal tissue left at points where they interlaced. I have seen this accomplished by the thermo-cautery as well as the galvano-cautery. The fact of the matter is, I believe the heated platinum has the same effect on the tissues no matter whether it be heated by combustion or the electric current. I do not believe that there is any electrolytic action, but only the effect of heat.

In regard to amputation with the galvano-cautery, and keeping the uterus high up and leaving this stump, which must have been in Dr. Hyde's case a large one, to heal by granulation, I am sure you get a band of scar tissue that extends beyond the area of the end of the stump, so that there is a ring of scar tissue, or in other words, a ring pessary that will keep the uterus higher up than any artificial one, and prolapsus will not occur immediately. Those are facts that it is useless to try to explain away, and yet I do not believe, especially in a young woman, that her future with that ring pessary of cicatricial tissue, which for the time being most effectually overcomes the prolapsus, and does so for a long time, will be as good as the future of a patient who has been treated by restoration of her cervix after the method of Dr. Emmet. Those are the conclusions at which I have arrived on this subject.

In regard to the difference between the methods of treatment, I have endeavored to be perfectly fair, because I learned to use the galvano-cautery before I learned to do Emmet's operation. I learned to amputate the cervix before I learned to restore it.

It may be interesting to know that a good many years ago I restored the cervix of a lady whose daughter recently unfortunately lost her life in New York from malpractice. It was before the days of the galvano-cautery, which Dr. Byrne has taught us how to use. She had a tri-lateral laceration, which I thought was malignant disease, and started to amputate with knife and scissors, but on a more thorough examination I concluded it was not malignant, and so I restored the tri-lateral laceration. The patient bore the operation without ether and I got good union, and that was before I was acquainted with Emmet's operation. I am sure Dr. Jewett will sustain my statement that I had a good result, for I think he has delivered her three times since then. Be that as it may, he sent her to me in years gone by, and on examination I found that she had an excellent cervix.

There is just one point more; I could not help thinking, when the Doctor described his case where the uterus measured six

inches in length, that it was very much like the cases Emmet described of prolapsus with relaxation of all the tissues and elongation. You all remember reading in his book about cases where the prolapsed uterus measured five or six inches long, and by putting the patient in the knee-chest position and telescoping it will be reduced two inches in length instantly. I have seen quite a number of these cases. And yet with reference to the extreme diminution in the uterus in Dr. Hyde's case, I am perfectly certain that in this regard his case is entirely exceptional, and one should not depend upon obtaining such unusual results. Those cases will recover by restoring the perinæum and cervix and keeping the uterus in place until the restoration of the cervix is completed, and they will get up with a uterus about the normal size, but if you do not restore the perinæum the prolapsus will come back.

In justice to the cautery I may repeat that amputation with it will keep the uterus in place from the very beginning, but I do not believe it will stay in place for many years. When the scar tissue shrinks and disappears the uterus will drop down I think just as badly as over. This is the rule, but there may be exceptions. It depends upon the extent of the inflammatory action and the exudate around the cervix.

Dr. Hyde:—Speaking of some of those cases that Emmet reported, there is a difference between those flabby uteri and one that has as much firmness and feels as large almost as a cocoanut. One is compressible by bi-manual manipulation, but this one I had reference to was a large, firm uterus, and was not one of those compressible uteri. The only way you could tell whether it was a uterine tumor you had in your hands was by the free mobility of the sound in the uterus, showing there was quite a large cavity, and it was one of those cases where there is some decomposition going on in the interior of the uterus, and sometimes explosions of gas would come from this uterus, and the lady felt some trepidation in going anywhere, as she would have quite an explosion of gas from the vagina. She has had none of that since the operation.

Meeting of April 7, 1893.

The President, Dr. Chase, in the chair.

PRESENTATION OF SPECIMENS.

Dr. Jewett presented a specimen of appendix vermiformis from a case in which he had operated. The appendix was found to have sloughed off completely and floated out with the pus. Near its

distal end it presented a small, round, clean-cut perforation. The case was under the care of a skillful physician who detected the tumor a day or two before operation. For more than a week before the tumor developed the patient had complained of slight abdominal pains and tenderness. The acute symptoms of the last two days undoubtedly correspond with the period of perforation. As the pus had collected along the outer and posterior aspect of the colon. A counter opening was made through the lumbar region. The temperature had fallen to the normal in forty-eight hours after operating and the patient was rapidly getting well.

Dr. Maddren:—Did you cut through the abdominal cavity?

Dr. Jewett:—It was opened at one end of the incision.

Dr. Maddren:—There was no evidence that any pus had escaped into the peritoneal cavity?

Dr. Jewett:—That was prevented.

Dr. Maddren stated—in regard to the specimen of supposed lithopedion submitted at the last meeting—that he had not yet received the official report from Dr. Van Cott, but he understood from him that it was unquestionably a lithopedion. The official report he would present as soon as received.

SCIENTIFIC BUSINESS.

Dr. R. L. Dickinson submitted his views on the subject of the evening, "Masturbation in Women."

Dr. William H. Skene was elected to membership.

L. GRANT BALDWIN, Sec'y.

Meeting of May 5th, 1893.

The President, Dr. Walter B. Chase, in the chair.

Dr. W. J. Corcoran presented the paper of the evening, entitled "The Causes of Failure in Plastic Operations."

Discussion by Drs. Byrne, McNaughton, Kortright and Chase.

NARRATION OF CASES.

Dr. Kortright reported a case of beginning epithelioma of the cervix uteri in a person whose cervix had been torn and repaired six years ago.

Discussed by Drs. Chase and McNaughton.

Dr. Chase reported a case of ovarian cyst simulating twin pregnacy.

Dr. Matheson reported two cases of complete placenta previa with very severe hæmorrhage, in both of which he perforated the placenta with his finger and delivered, by version, a dead fœtus.

Dr. A. Ross Matheson:—On the 23d of April last I was invited by Dr. R. M. Mead to see Mrs. P— in consultation with him. Dr. Mead had been called to see her several hours previously and found her having a very severe hæmorrhage, which he ascertained was due to placenta prævia. He applied cotton tampons and secured control of the hæmorrhage. When I saw her she was in labor and was having effective pains. The os was well dilated, and the placenta completely occupied the inner orifice forming that type known as placenta prævia centralis.

The doctor requested me to deliver her, which I did by Wyder's method, as proposed by Rigby, Merriman and Gooch. I forced the fœtus with my left hand down into the pelvis, then inserted the index finger of my right hand into and through the placental mass, and then, enlarging the opening sufficiently to permit my hand to pass, I rapidly delivered by version. There was very little loss of blood during this operation. The fœtus had reached the seventh month of utero-gestation and was dead. I may add that I treated the husband of this patient for syphilis several years ago.

On Wednesday last I had another case. The patient was a multipara who had frequently miscarried. About 2 P.M. the fœtus began the most violent movements she had ever experienced and which continued for a period which she estimated at from five to ten minutes and then abruptly ceased. The symptoms were succeeded by a severe hæmorrhage and I was called to attend her. I found a condition very similar to the case just related, and my treatment was the same. The fœtus was between the seventh and eighth month and was dead. I believe that the fœtus died during the violent movements the mother described.

The first patient has fully recovered and the second is doing well.

Discussed by Drs. McNaughton and Chase.

Dr. McNaughton:—How long did it take you to deliver the fœtus after making the introduction through the placenta?

Dr. Matheson:—Well, it was not very long; it was a seven month fœtus. I saw my way through the membranes first with the thumb and finger. I think my arm and the fœtus acted as a very very satisfactory plug. There was very little hæmorrhage after I had my hand in the vagina. The hæmorrhage was very serious before that; there was a perfect deluge of blood. The placenta was rather a peculiar one. I have taken possession of it and intend to send it to Dr. Pilcher and get his view of it. The blood-vessels presented a peculiar appearance, an embolic condition—thrombosis of the veins. There was no syphilitic history. There was a syphilitic history is Dr. Mead's case.

Dr. Kortright:—I would like to ask Dr. Chase about a discussion which was published in the Brooklyn Medical Journal some time before I had the honor of being a member of the Society. He read a paper about carcinoma of the cervix beginning in a tear of the cervix and the wisdom of operating as a prophylactic measure.

Dr. Chase:—I read a paper before this or the Kings County Society, I forget which, on the genesis of malignant disease of the cervix, and raised the question, after quoting various authorities and cases, whether of itself a laceration of the cervix was sufficient reason for operation.

Dr. Kortright:—I think the consensus of opinion seemed to be that it was a very good prevention of malignant disease.

Dr. Chase:—The opinions expressed by Emmet and Goddell, while they have held that opinion, as also Grailey Hewitt, and I might include Dr. Skene, yet they have hardly ever been able to make an absolute demonstration that it is true. I hope you will follow up that case.

Dr. McNaughton:—I think they stated that the repair of the laceration had been obliterated and they could not tell whether there had been a laceration or not.

Dr. Chase:—That was the reason why, never having seen it early enough, they could not determine the fact; but when we consider the very rare occurrence of malignant disease of the cervix in those who have not borne children, it shows that the relation between reproduction and malignant disease of the cervix is very great indeed, and probably the traumatism is the starting point of the trouble.

Dr. Chase:—I might report briefly a case which I saw recently, which is not of very frequent occurrence. About two weeks ago a medical gentleman of this city sent me word to meet him in a case of confinement. I saw the patient, who was a robust, fleshy, stout woman of Celtic origin. The doctor showed me the child, which was well developed and perfectly formed. The mother had a comparatively easy labor, though it was somewhat prolonged. He told me that the after-birth had been delivered, but on manipulation he felt something which he thought to be another fœtus, and based his opinion principally on external manipulation. The abdomen was certainly as large as a woman at full term, but it was noticed that the enlargement, while symmetrical, was more marked on the right than on the left side, and on palpation I at once satisfied myself there was a very large ovarian cyst. On passing my finger into the vagina and up to the cervix, by bi-manual palpation

I was able to locate the position of the uterus on the left side, thoroughly contracted and about the natural size. The interesting feature of the case was that so large a cyst was able to maintain its integrity during gestation and labor, for the history showed it antedated conception. Those cases occur now and then but are not frequently seen.

W. H. Skene, Sec. pro tem.

BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

Meeting of December 9, 1892.

The Vice-President, Dr. Smylie, in the Chair.

1. Dr. Sherwell presented a case of Raynaud's Disease, with the following history furnished by Dr. Mosher: A. S., forty-five, widow, was admitted to the Brooklyn Hospital two years ago. Had always been well till the death of her husband two years previously, after which she was obliged to work; her hands then being much exposed to the cold, she first felt tingling pains in her finger-tips these also becoming white, but resuming their normal color after becoming warm. The following winter this whiteness and tingling increased, extending as far up as the metacarpo-phalangeal articulation. Normal again in summer. Third winter exaggeration of the tingling, but the fingers became blue or purplish and a sore which soon involved the nail appeared at the tip of one finger which was much swollen and painful. When admitted to the hospital all the fingers were swollen and three of them were covered with dry, dark colored sores on their tips, having distinct lines of demarcation. The nails were heaped up, lustreless and disintegrated. Pus never formed. She remained in the hospital several months, during which time the other fingers slowly assumed the same appearance as the three mentioned.

All trace of her was then lost until last year when she applied at the out-door department. Her general condition then differed but slightly from that of the previous year, excepting that the nails were in a more normal state.

At present the ends of the fingers are short and thick, have a hard stone-like feel, are white and easily affected by the cold.

Dr. Winfield mentioned a case in which there were unilateral patches of gangrene, loss of several nails and contraction of some of the fingers. The hands were not enlarged but one finger was.

The case was considered as one of Raynaud's disease by several neurologists who had seen it. Anti-syphilitic treatment improved the patient for a time. Then all trace of him was lost.

Dr. Morton had also had a similar case in a gentleman of this city, who had been under a prolonged mental strain for several years, when atrophy of the fingers with fissuring and falling of the nails took place. The treatment of most service had been the application of the salicylated soap plaster and frictions with green soap.

Dr. Raynor called attention to the general thickening of both the distal and second phalanges and suggested that the question of specific disease might arise.

Dr. Holsten drew attention to the differences found between syphilis, tuberculosis and Raynaud's disease, as affecting the fingers. In syphilitic dactylitis there is a thickening, coming on fairly rapidly, of the metacarpal bones, proceeding from the proximal towards the distal end, so that the fingers have the appearance of a ten-pin, the joints forming the constrictions on the pin; it is also more apt to be bilateral and has no tendency to break down. In tuberculosis the swellings are at the joints, increase very slowly, and are more apt to be unilateral; are not so symmetrical and tend to suppurate and break down. In Raynaud's disease there is atrophy beginning at the tips of the fingers and usually progressing symmetrically on both hands.

Dr. Sherwell did not consider an history of syphilis proven in this case and the appearance was against tuberculosis. The lesions of the fingers were the result of loss of vitality and death from gangrene. This patient also gave a history of former extravasations of blood and the formation of blebs, so common in this disease.

2. Dr. Winfield presented a possible case of anæsthetic leprosy.

(Reported in full in the March, 1893, number of this journal.)

Meeting of January 13, 1893.

Dr. Morton, in the Chair.

1. Dr. Lott (by invitation) presented a case of leprosy. The patient, a woman, æt. twenty-four, was born in the West Indies. The disease first began in 1886, and in September of that year ulcerations formed on both lower extremities; these ulcerations increased during the following year. In November 1887, her lips began to swell, with discolorations of face and ears which later became swollen and finally ulcerated. Subsequently similar tuber-

cles and ulcerations appeared on the forearms. During 1888, her throat, lips and side of nose became ulcerated. The patient first came under Dr. Lott's care in 1889, since 1891 her condition has been constantly improving. The treatment has been mainly with a tincture of nux vomica and Chaulmoogra oil. It is interesting to note that the patient first took nux vomica in increasing doses up to 68 drops of the tincture three times daily for four days, before toxic symtoms were manifest; subsequently 52 drops, 48. 32, 25 and at present 19 drops will produce a toxic effect. The Chaulmoogra oil was given internally and applied to the ulcers.

2. Dr. Morton presented a man with a history of frequent sexual intercourse for several weeks prior to the appearance of a lesion on his penis. He had been under observation three weeks. There had been on the under surface of his penis just back of the frænum a hard, indurated nodule having a cartilaginous feel and having an opening from which pus could beex pressed; this opening soon after healed and then a purulent discharge appeared from the meatus. The induration still existed. The post-cervical, inguinal and epitrochlear glands were enlarged but no eruption had as yet appeared. Throat was red with a number of small vescicles around the soft palate. Dr. Morton had at first thought it was an inflammation of one of the follicles of the urethra which had ruptured externally, but subsequent observation led him to regard it as an initial sclerosis with perforation.

Meeting of February 10, 1893.

The President, Dr. Sherwell, in the Chair.

1. Dr. Morton presented a man with a peculiar lesion situated on the front of the wrist which had been present three years. The patch had a circular outline, was raised above the normal skin with much infiltration and had a peculiar warty appearance; was hard to the touch. There were no evidence of syphilis. The case was presented as one of verrucous eczema.

Dr. Winfield did not regard it as at all eczematous, but thought from its hard cartilaginous base that it was an epithelioma.

Dr. Sherwell thought the lesion to be a tuberculosis verrucosa cutis.

2. Dr. Sherwell presented a case of sycosis of the upper lip and read an extract from a paper published by him in 1889 in the New York Medical Journal, showing the relationship of sycosis to certain forms of nasal disease, and that in these cases the nose should be the first and the most important object to be treated.

3. A discussion on variola was opened by Dr. Jewett who stated that the diagnosis of variola depended upon the history and the objective and subjective symptoms taken collectively. While it was a comparatively easy matter in unmodified cases, there were wide differences between variola and varioloid, and that cases of the latter were ofttimes extremely difficult to diagnose. Some of the statements contained in text-books were misleading, as for instance, the "shotty feel" and the "umbilication" which were often wanting in varioloid, while on the other hand they might be present in other eruptions.

The clinical history was a very important factor in the diagnosis, though reliance could not always be placed upon the statements of the friends, who might be anxious to lead off from a diagnosis of variola. This fact should always be borne in mind. Having a history of pains in the back, head, limbs or stomach, chills, fever, nausea or vomiting, followed by an eruption in three or four days, suspicions should be aroused and a careful examination should be made. Cases of bilious attacks with severe pains, chills, nausea; etc., or of malaria occurring at a time when variola was prevailing should be considered.

Having the conditions described, you will proceed to differentiate between variola and other eruptive diseases.

Measles could generally be excluded by the absence of coryza and cough as well as the character of the eruption. The macular eruption in variola soon became papular.

It would seem that scarlatina should never be mistaken for variola, although such mistakes have been made by men of large experience. The character of the eruptions should be sufficient.

Varicella was the most likely to be mistaken for variola. In varicella the eruption is vesicular early, i. e., on the first day of the eruption. Generally there was no history of sickness previous to the eruption, which began in small spots or puncta, enlarging as they became vesicular and pustular. The eruption was more irregular in size and shape, and ran a more rapid course of development. Over a limited area there would be found two or three stages of eruption due to its appearing in successive crops. Dr. Jewett had seen variola appear in successive crops, but the character in a limited area as described above was absent. Furthermore the vesicles of varicella soon assumed a wrinkled or crenated appearance. The amount of eruption and constitutional disturbance was not always a safe guide, as varioloid might occur with less than a dozen papules on the whole body, while on the other

hand a varicella might occur with a very profuse eruption. He was of the opinion that variola sometimes occurred without any eruption. Patients with varioloid sometimes were not sick at all, but went about their daily occupations as usual.

The eruption of typhus fever is macular, or if at all papular, soon became macular. The continued high temperature and severe symptoms would exclude variola. On the first day of the eruption in variola the patient generally expressed himself as feeling better.

The history and more chronic character of the eruption would generally exclude syphilis.

He recently saw a case where a history of chancre, etc., was given; but the symptoms, followed by an eruption on the third day, made the diagnosis.

The diagnosis could also oftentimes be made by exclusion.

Dr. Winfield thought that on the subject of umbilication the converse of the rule was more nearly true; umbilication was met with in so many diseases as not to be of any diagnostic value. It is stated in the books that variola always begins on the forehead and wrists; this is not always true; he had seen it begin as an erythema on the chest which subsequently developed into a general variola.

Dr. Morton said that a hæmorrhagic measles was extremely difficult to diagnose from hæmorrhagic variola.

Dr. Jewett has seen a case of hæmorrhagic variola in which there were no papules whatever on the face and hands and but very few on the body.

Dr. Raynor spoke of a case in which it began with one or two pimples on the forehead; on the following day a universal roseola appeared, which was more pronounced over the tibia and on the soles of the feet. There was a temperature of 103°, but the patient otherwise was not very sick. This condition continued for three days longer, when a typical eruption of variola appeared over the body, the temperature then dropping to 97°.

Dr. Sherwell would lay most stress on the appearance of the eruption on the wrist; in this location it was not like anything else.

Dr. Holsten in speaking of the similarity which the varicella eruption sometimes bears to variola, said that generally the individual lesion in varicella as it developed spread out. He had seen umbilication frequently in varicella in children, especially so in strumous, poorly nourished and dirty children, and ofttimes these patients would show a mixture of lesions and macules, papules, vesicles and pustules.

Dr. Sherwell found himself in entire consonance with the writer of the paper as regards any extreme difficulty of differential diagnosis between varicella and variola in most cases; varicella as he had found it, also being characterized by variety of forms of eruption in the same case from erythema to pustulation in a relatively small area; but sometimes the subjective symptoms of varicella in some individuals were greater than were those of variola in others. For instance, he had been lately called in the Brooklyn Hospital to pass upon two cases of suspected contagious disease. In the one case, a male, there was a distinctly pustular, variolous eruption on the face and elsewhere, but the patient had not suffered according to the attending internes with any degree of prodromal symptoms or of intense temperature, etc., yet it was distinctly and clearly a case of small-pox. Again, a young domestic in the same hospital at the same time was covered from head to foot with a varicella eruption, who had on the contrary, suffered from the gravest prodromal and constitutional symptoms, having had distinct rigors and intense temperature rising to 107° F., and which had continued very high for some days—two or three—deliquescence having then suddenly supervened.

Meeting of March 10, 1893.

The President, Dr. Sherwell, in the Chair.

1. Dr. Sherwell presented a case of lupus of the lobe of the left ear of a woman, eighteen years of age. The disease began when the patient was six months old. There was also a small, isolated nodule on the side of the neck about one inch below the ear.

Dr. Holsten spoke of the mode of treatment which Unna had employed several years ago of applying massage to lupus tissue upon the theory that the massage set free a ptomaïne generated by the bacilli in the tissue which then entered the system, giving rise to the same reaction as tuberculin, and that he claimed to have had good results.

Dr. Sherwell said that the good effect of Unna's massage might be accounted for under another hypothesis, that of breaking up those lowly vitalized cells. As to the effect of tuberculin, he could not speak with any authority, but he was the first to speak of the similarity of its action to the effects of erysipelas which he had seen produce very good results, some cases being cured and others made decidedly better.

He desired to call particular attention to the peculiarly florid state of health of this patient. He could not recall ever to have

seen a patient who was either tubercular generally at the time, or who threatened to become so later, notwithstanding that Pick speaks of the immense number of phthisical cases having lupus. Dr. Sherwell had under his care for a long time a case of lupus of the larnyx where all the conditions were seemingly favorable for the development of general tuberculosis, but in which there was no evidence whatever that such would occur.

He proposed to employ an ointment containing creosote 5 per cent and salicylic acid 15 per cent.

Dr. Winfield said that at the Consumptive Home, where he had seen more than 300 cases of phthisis in the last two and a half years, the patients ranging in age from ten to sixty years, he had only seen one case that was at all suspicious of lupus, that being a young man who had a peculiar ulceration on his tongue which healed at one edge while it extended at the other. It was proved not to be syphilitic, but before a positive diagnosis could be made, the man died of general tuberculosis.

Dr. Holsten said that probably the reason so many cases of lupus were seen in Europe and so few in this country, was that in Europe the people had become tuberculized, so to speak, the virus had been attenuated and now manifested itself more frequently by its circumscribed, localized action, while in this country, general tuberculosis occurred. It was analogous to the course of syphilis. When syphilis was first introduced into a certain country it ran a rapidly malignant course, ofttimes fatal, while in such countries where it had existed for a long time, Spain, for instance, it acquired a slow, mild character.

2. Dr. Holsten presented a patient with a gumma of the iris. The patient had been presented at the April, 1892, meeting, having then an initial sclerosis on one finger, and also at the January, 1893, meeting, when he had a syphilitic interstitial orchitis. The gumma was first seen on February 11, the patient stating then that the eye had become painful a few days before. On examination a tumor about the size of a small pea, reddish-yellow in color and surrounded by a zone of fine blood-vessels was seen situated on the outer side of the left iris. The patient had been negligent for some time before in taking his medicine. During the following week the tumor increased in size, the iris became filled with plastic exudation, so that the pupil could be seen as a deep, crater-like hole, and became bound down to the capsule. A keratitis also developed, so severe that at one time nothing of the interior of the eye could be seen. The patient was admitted to the E. D. Hospital, inunctions of mercurial ointment one and one hal

drachms daily were made and iodide of potassium twenty-five grains three times daily given and rapidly increased until he took sixty grains t. i. d., when the cornea cleared, the tumor began to decrease in size and the plastic exudation to be slowly absorbed. Atropine was also used and hot applications were made hourly day and night. After two weeks of inunctions the gums became slightly swollen.

At present the tumor is only about the size of a mustard seed, but considerable adhesion still exists, the pupil being very irregular.

These syphilitic conditions of the iris may be of three varieties; a simple congestive condition of the vessels around the iris; second, one in which there is exudation into the iris of plastic material, so that the iris becomes thickened, and third, those in which tumors form. Although it is common to speak of these tumors as gumma, they really are not, but should be considered as papules, similar in their character to the papular syphilides on the skin, and it is noticeable that in those patients who develope early and severe papular lesions these iritic papules are more apt to appear.

CORRESPONDENCE.

PREPARATIONS OF GOLD.

To the Editors of Brooklyn Medical Journal:

For three years I have been studying the effects of different preparations of gold. I at last concluded that a bromide of gold and arsenic would be a useful preparation if it could be prepared. After consulting some of the ablest chemists, and receiving no encouragement—all said it was impossible—I induced a young chemist, Mr. Hays, of this city, to attempt it. I am pleased to state that I am prescribing liq. aurii et arsenici tri-bromidi with good results. Ten gtts. of the solution is equivalent to one thirty-second of a grain of gold tri-bromide, and one-sixteenth of a grain tri-bromide of arsenic. The solution is of a beautiful red color, and does not deposit its acid in reaction.

The only precaution in prescribing it is that it should be administered in one-half to two-thirds of a wine-glassful of water. It agrees well with the stomach and does not constipate the bowels.

I have prescribed it for headache in a number of cases with entire satisfaction. I prescribed it in one case of epilepsy. The patient, a boy, aged six years, had several convulsions each day; had loss of speech, constant dribbling of saliva from the mouth, inordinate appetite, involuntary passage of urine. Prescribed 5 gtts. liq. aurii et arsenici bromidi ter die. In three weeks the patient was taking 10 drops ter die; in four weeks the convulsions had ceased, speech had been restored, appetite was normal; retained the urine. He is, I believe, entirely well. The treatment was continued four months and left off. Miss Winnie W., aged twenty-three years, had exophthalmic goitre and hysterical mania. Prescribed 10 gtt. liq. aurii et arsenici bromidi ter die. At the end of six weeks she was entirely well.

Mr. H., aged fifty-nine years, had arthritis deformans of both knee-joints. Dr. E. A. Wood saw him in consultation. Prescribed liq. aurii et arsenici bromidi 10 gtts. ter die, and increased it to 14 gtt. ter die in three weeks. The only treatment given was liq. aurii et arsenici bromidi, with external application of lanolin over knee-joints. In six weeks all pain and enlargement of knee-joints had been removed. He was discharged cured.

Mr. E., aged thirty-one years, had syphilitic mania. Prescribed liq. aurii et arsenici bromidi ter die; rest in bed. In four weeks he returned to work, and to all appearances he was entirely well.

Mr. H., aged twenty-six years, had syphilis six years ago. Had continual pains in his head; had dactylitis of the fingers of both hands, nodes on both shin bones. Prescribed liq. aurii et arsenici bromidi ter die. At the end of three weeks he went to work, and seems to be entirely well. Treatment was continued. I believe from my experience in the use of liq. aurii et arsenici bromidi that we have an aqueous solution of gold and arsenic of much value in the treatment of diseases.

I might report some other cases treated with liq. aurii et arsenici tri-bromidi—but believe these cases reported will indicate its use to those who may care to give it a trial.

I shall in the future report cases in the treatment of which I have used another new remedy, liq. aurii arsenici et hydrargyri bromidi.

Very truly, W. F. Barclay, M.D.

474 Fifth Ave., Pittsburgh, Pa., July 24, 1893.

HARRIMAN, TENN.

HARRIMAN, TENN., July 5, 1893.

To the Editors of the BROOKLYN MEDICAL JOURNAL:

Ever since coming here "for good," in April, 1892, I have had growing upon me the feeling that I owe it to many friends in the profession to tell them of the characteristics of this country in which I have found the pleasantest and happiest home I ever had.

As such a statement may benefit others, whom I do not know personally, I venture to make it to you, and you may spread it abroad as you see fit.

We are at an elevation of about 800 to 900 feet above sea level, though in the valley of the Tennessee, and the mountains are all around us. From the nearest height of "Walden's Ridge" the "Great Smoky Mountains" of North Carolina can be plainly seen, when the air is clear, though eighty miles away.

The Emory River, which encircles the town on three sides, is one of the few beautiful, clear, soft streams of the South, and is ample in quantity for all our needs, even when we grow from our present population of about 4,500 to 100,000 or more.

There is no malaria. There has never been yellow fever or cholera, and no reason why there ever should be.

The natural drainage of the place is almost perfect.

On the ridges and elevations around the town are many of the most beautiful locations for homes that I ever saw anywhere, and they are fast being taken up and built upon.

I have left for the last mention our climate, and here I find words fail me to describe it as I see it and enjoy it. Having been here through one entire year, and now well into the second summer, I suppose I have thoroughly sampled it. By record our thermometer goes no higher than it does in Brooklyn. Perhaps we have more days in an entire season when it reaches its height in the middle of the day than you do, but the atmosphere is so dry and ready to take up the moisture that even when it is hottest in the sun one can feel cool by getting into the shade. The summer nights are always cool.

Last winter the thermometer touched zero but a few mornings, but almost the entire winter was included in two weeks in January.

We have never had, within the memory of the "oldest inhabitant," any cyclonic visitation. We can see how our surrounding mountains effectually turn off any such disturbances.

In short, we seem to have the ideal climate for weak lungs and in tender throats to recuperate. The sanitarium accommodations for invalids are as yet lacking, so we do not make an effort to invite them here in large numbers. We hope to be in shape to do so in the near future. The medical profession is very creditably represented and in sufficient numbers for present requirements. (I am not "in it" here as you know.) GEORGE R. BARNS.

TACOMA, WASH.

TACOMA, WASHINGTON.

To the Editors of the BROOKLYN MEDICAL JOURNAL:

For several months I have entertained the thought that a letter bearing upon the state of medical affairs in this section would be of interest to your readers. The older men in the profession will not read with as much attention as the younger members; of course they are settled, as 'twere, and doing well. The student and graduate of two or three years, however, must needs look about him for "a good location" and will read this communication with greater interest.

The young medical man (I am not very old myself), when he makes his exit from the sacred confines of his college, is unusually enthusiastic and confident. But, when he looks about him and views the teeming thousands of contemporaries already in the field, his confidence is somewhat shaken. He is then, perhaps, for the first time brought face to face with the stern realities of his future. For when a fellow is at college he seldom thinks of practice, at least not very seriously; it takes all his time to keep up with his lectures and examinations. So, therefore, my words will be directed more to the younger men.

The saying that "there is always room for *good* doctors," possesses much truth. Yet one has only to look in the directories of the larger Eastern cities to find that they are crowded with "good doctors." And surely we cannot do so well with more competition as with less. But before arguing in favor of Greely's advice, let us speak of this, the most beautiful corner of our glorious Union, from a medical standpoint. I shall confine my statements to medical affairs in the State of Washington; saying, that what is true here is also a fact in neighboring States.

Tacoma, Seattle and Spokane are the three cities of the first class, having a population of about fifty thousand each. These

cities, of course, are growing rapidly, and so increaseth the number of doctors. Cities of from five to ten thousand have their usual quota of medical men. If the people of the East could but see the push, energy and enterprise of these places, they would never make the statement that "there is no place outside of New York" (I thought the same way once). A physician, like other mortals, enjoys sociability, requires comforts and desires pleasure; and he is loath to locate in a place where these conditions do not exist. Those who have never traveled west of the western boundary of New York, in fact west of the muddy Missouri River, can form no idea of the settled conditions of the social and business affairs of the people.

The tide of immigration is flowing this way, as evidenced by the increase of population, the record of our bank clearances, our mercantile importance and our output to the United Kingdom and Orient. These are cold facts that the sensible physician will ask and insist upon knowing, because the affairs of mankind are to-day so intimately blended that the professions are dependent upon the success of business generally for advancement. To put it briefly, the resources for support of this State, I may say section, are in lumber, mining, fisheries, fruit and agriculture generally. The recent line of steamships to China and Japan, together with the older liners to points on the Coast, have opened up a new field and developed the old. Could you but see the immense cargoes of wheat and lumber that leave this State for China and Japan, and the large quantities of Oriental goods, such as silks, teas, curios, toys, &c., that arrive here for Eastern distribution, you would be assured of the commercial importance of this coast. By having recourse to the records of business, however, these facts can be easily verified, so I will go on to another topic.

The profession here as elsewhere is made up of the good and the bad. We could, until the passage of the act for the regulation of the practice of medicine by the Legislature, see the flaming signs of the charlatan and quack. But now these impostors are rapidly leaving. The stipulations of the act are the same as in other States, require a successful examination by a Board of Medical Examiners, the presentation of a diploma from a first-class college, &c. The board is doing good, honest work, and, therefore, considerable "plucking." As a general rule throughout this State physicians do not advertise (not even a professional card) in the daily papers. This shows well, doesn't it?

The rank and file of the profession is made up of young men. As I have intimated the older men do not like to leave their old

stamping grounds for new. As a matter of fact our lawyers, bankers, merchants and manufacturers are nearly all young men. Perhaps this very fact accounts for the rapid progress of this section. The greater our age, the wider our experience, and experience teaches conservatism. People here are not conservative; they think rapidly, act quickly and are therefore risking. This statement applies more to business men than professional. One might say that these cities are vast stock exchanges, where within an hour fortunes are made and lost. This was especially true three or four years ago when real property was held at lower prices, and business generally was in a state of uneasiness and fluctuation.

A steady, healthy growth characterizes these cities at the present time. Now, I come to speak of the profession from a professional point of view. Each city and some country towns throughout the State have one or more fairly equipped hospital. Seattle, Spokane and Tacoma have each two large hospitals, besides a county hospital. Accommodation for about four hundred patients would be a proper estimate of the hospital capacity of each city. When you consider the large lumber mills, the extensive mines, the logging camps, the smelters, the factories and the marine service of Tacoma and Seattle, it is clear that they are needed. There is little difference in hospitals, except that the modern buildings have detached wards, which are of great advantage. We are very modern out this way. There was a time when patients from this section would go east or south to San Francisco for operations of importance. That time has become a memory. For now every type of disease, surgical or medical, can be and is treated at home. It is with much pride and satisfaction that I tell you we open almost daily into the "formally fatal" abdominal cavity, with as much confidence of a successful result, as in any other region of of the world, and our reports of cases compare favorably with any other State.

Only within the past few months have we had a local medical journal (The Pacific Medical Record) to report and record our cases of interest. The Eastern journals are crowded with matter; many of them over two years ahead of their contributions and, therefore, can give no space to "stuff" from here. Hence the greater East (medically speaking) does not know what the lesser West is doing. This new journalistic effort I am informed by the editor is well received by the physicians here, and after the newness has worn off I hope to see a newsy a practical paper. One great drawback to the "Record" as well as the profession at

large is that many physicians are rather jealous of each other, therefore, they hesitate and often refuse contributions because of too severe criticisms. This disagreeable feature is due in great part to the fact that all are striving for first place, as 'twere, and in their enthusiastic efforts they are apt to forget that it is a fair race and too often "claim a foul." Perchance this is true of all new places. The only specialists we have are those of the "eye, ear, nose and throat." The country is not *dense* enough to admit of more as yet, but as we grow older and larger, I suppose we will all become narrowed to the treatment of diseases of one organ. May the gods forbid, however, is my prayer! What we need here is more of what we have, viz.: more men who have had hospital training. For then we will avoid contention; because any one who has spent a year in a hospital learns that he cannot "know it all" and is, therefore, generous.

A custom prevails in the Middle and Western States among physicians which is expensive and disagreeable, that of having offices in public buildings. Expensive because it involves payment of two rents—office and residence; disagreeable, because of the drive home after night and for meals, and frequently, in answering night calls, one is compelled to send or go to the office for instruments, &c. Rents are high. An office and reception-room costs on an average from $25 to $50 per month, houses from $35 to $60. The usual household expenses other than rent are a trifle more than in the East.

The fees for visits, consultations and operations average more than in the East. (I do not include in this statement the "high-priced" men of New York and Brooklyn.) We get from $2.50 to $5 a visit, $10 to $25 for consultations, $25 to $50 for confinement cases (uncomplicated), $50 to $100 for such operations as repair of cervix or perineum, and abdominal work ascends into the hundreds. Of course there is considerable cutting of prices, but these figures are upheld by the better men, and very often exceeded.

Thus I have tried without an attempt at words, to give the medical man who has his eyes turned westward an idea of the state of medical affairs in this promising corner of the country. It is but just that I should add (lest someone be misled by my letter) that here, as elsewhere, the physician has difficulties to surmount and hardships to undergo before he reaches success. Many a young man has given up in despair and wended his way East again. But those who are determined and persistent, and willing to deny themselves much of the pleasurable things of life, and are competent, must needs be successful.

No. 921 C Street, Tacoma, Wash. ARTHUR E. BURNS.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

AN INTRODUCTION TO THE STUDY OF DISEASES OF THE SKIN. By P. H. Pye-Smith, M.D., F.R.S., F.R.C.P., Physician to the Department of Cutaneous Diseases in Guy's Hospital, London. In one handsome 12mo. volume of 407 pages, with 26 illustrations, 18 of which are colored. Cloth, $2. Philadelphia: Lea Brothers & Co., 1893.

This really valuable volume must not be judged by its relative size or confounded with ordinary compositions and so-called treatises on skin diseases of the same number of pages; being as it is, the result of an arrangement of various monographic studies and papers of the distinguished author, published at various times individually, and also in connection with various writings of the late Hilton Fagge.

We look upon it as a work which few teachers in Dermatology will be inclined to do without, so full of original and well expressed thought is it, and also of suggestion both to themselves and to the practitioner whose daily life brings him in contact with many cases of skin disease.

We do not consider, however, the book as a whole, adapted for the use of the student, unless it be the advanced one; the difference in arrangement and classification being unusual and even unintelligible to one used only to the now generally received classification (modified, etc.) of Hebra: but to the the illuminati it will be a source of pleasure and satisfaction to see separate diseases treated of as distinct entities in their order of importance, and entirely irrelative of their ordinary groupings.

One cannot help finding fault and disagreeing with the author's conclusions on some technical points (too long to dwell on here), but no one can fail to note the excellencies of the work or the evidences of profound thought and clinical judgment underlying it in general.

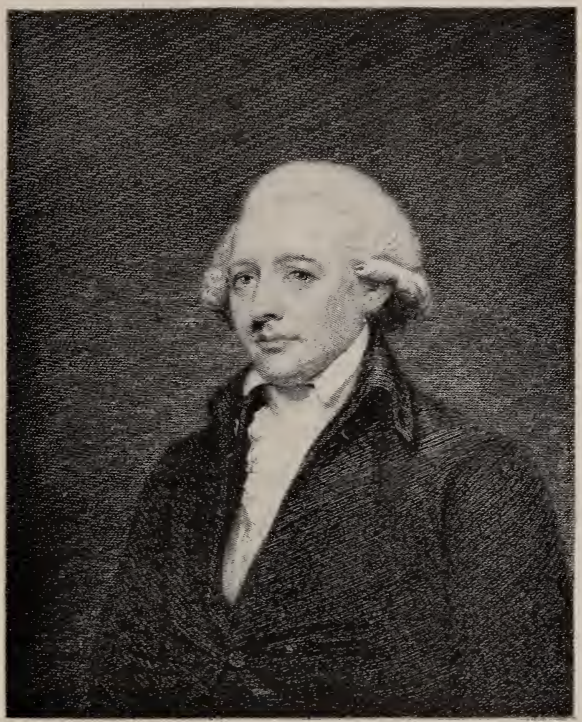
The diagrammatic illustration is a novel and instructive feature, but here again it may be said those who will profit most by it are men versed in the subject, and as we believe, not the student.

The chapter on Eczema and its manifestations, treatment, etc., too, for instance, with which the author, contrary to the usual custom, commences his series of special subjects is, as is the case with several other studies, concisely and well written.

The proof-reading is full of errors. S. SHERWELL.

INTERNATIONAL CLINICS. Volume I. Third Series, 1893. Pp. 361. Philadelphia: J. B. Lippincott Co., 1893.

The International Clinics has come to be looked upon by us as one of the medical publications which meets a want that until its first appearance was unsatisfied. The great variety of the articles, all written by specialists in their respective departments, makes it easily the first of its kind. This, Volume I. of the Third Series, is equal in interest to those that have preceded, and this not only to specialists, but also to the general practitioner.



WILLIAM CUMBERLAND CRUIKSHANK, F.R.S.

The subject of our sketch was born in Edinburgh, in the year 1745, and his middle name was given him in honor of the hero of Culloden, but it was seldom used by our anatomist, who preferred to be known by the plain cognomen which signs this portrait (W. Cruikshank).

He was educated for the church, but feeling a strong propensity toward the study of medicine he abandoned divinity for the more congenial study, and in 1771 went to London and succeeded Hewson as assistant to Dr. William Hunter, whose partner he afterwards became, and on the death of that great man continued the course of anatomical lectures which Dr. Hunter had been accustomed to deliver to his pupils. Mr. Cruikshank's lectures, together with his publications on the subject gave him high character as a perfect anatomist, and a very acute and ingenious physiologist.

In 1786 he published his principle work, the "Anatomy of the Absorbent Vessels of the Human Body," in which he not only demonstrated, in the clearest manner, the structure and situation of these vessels, but collected, under one point of view, and enriched with many valuable observations all that was known concerning this important system in the human body. Besides this work, the merit of which has been fully acknowledged by translations into foreign languages, he wrote a paper, entitled "Experiments on the Nerves of Living Animals," in which he showed the important fact of the regeneration of nerves, after portions of them had been cut out; illustrated by actual experiments on animals. This paper was pigeon-holed in the archives of the Royal Society for nearly twenty years, through the influence of Sir John Pringle, then the president, because it controverted some of the opinions of Pringle's intimate friend, Haller.

Another important work of Cruikshank's was "Experiments in which, on the Third Day after Impregnation, the Ova of Rabbits were found in the Fallopian Tubes; and on the Fourth Day after Impregnation in the Uterus itself; with the First Appearance of the Fœtus."

In addition to Mr. Cruikshank's engagements in the anatomical theatre and the disecting room he was much occupied in practice. He gave advice to a very numerous class of the poor who applied at his house, and it is said that the numbers that flocked to him were incredible. At this period public dispensaries were not common—hence the applications to him in private were so great. He treated all with great kindness; "his door was never closed against sickness or sorrow;" and by his benevolence he showed himself to be, what Dr. Samuel Johnson had described him, in the phrase of his own country, "a sweet-blooded man." He died of apoplexy, as he had himself predicted he would, in 1800, at the age of 55. His life had been devoted to anatomical and physiological pursuits, and his museum, which he had begun to collect after that of Dr Hunter, went to Glasgow, was disposed of for the benefit of his family to the Russian Government, and is now with that of Ruysch, in St. Petersburg. J. H. H.



Holbein. Pinx. *Clamp. Sculp.*

ANDREW BORDE,

Physician to Henry the Eighth (who seems to have treated himself as liberally in the way of medical attendants, as with wives), and the original of all the "Merry Andrews."

Born in the latter part of the fifteenth century, he was educated at Oxford, and admitted a Carthusian monk, in the convent in London. In 1521 he was dispensed from the monastic vows in order that he might become Suffragan Bishop of Chichester, but he never acted in that capacity.

Released from religious obligations, he embraced the profession of medicine, and went abroad to prosecute his studies, visiting the principal countries of Europe, even going to Africa, and returning to England in 1530. In 1532, he paid another visit to the Continent, and took his medical degree at the University of Montpelier.

He settled first at Pevensey, his native town, in Sussex, but his reputation and practice increased so rapidly that he removed to Winchester, and became one of the court physicians.

He is described as a most extraodinary person. "He professed celibacy, drank water three days in the week, wore a horse-hair shirt, and hung a shroud or burial sheet at his bed's feet." Notwithstanding all this parade, Andrew was suspected of not being more moral than his neighbors, for we find him dying in the Fleet Prison, London, where he was confined on account of having been found guilty of the crime of "keeping an immoral house," in 1549.

"Andreas Perforatus," as he characteristically Latinized his name, is said to have been an ingenious man, who knew how to please his patients, readers and auditors. In his travels and visits, he often appeared and spoke in public, and would often frequent markets and fairs, where a conflux of people used to get together, to whom he prescribed; and to induce them to flock thither more readily, he would make humorous speeches, couched in such language as caused mirth and wonderfully propagated his fame. It was from the Doctor's method of using such speeches at markets and fairs that in after times, those who imitated the like humorous, jocose language, were styled "Merry Andrews."

Notwithstanding this, Boorde (as his name is sometimes spelled) had the reputation of being a great scholar at that time, and a careful biographer has said: "Any one who would make him a mere merry Andrew, or more of that than anything else, is a bigger fool than he would make Boorde."

His principal medical works are "The Dietary" and "The Breviary of Health." "A Compendious Regimen, or Dietary of Health," was written, he tells us, to show "how a man should order himself in all manner of causes pertaining to the health of his body." It is divided into forty chapters, and contains directions for building and ordering a man's house and household, for exercise, sleep, food and drink, besides suitable dietaries for health and sickness. It is to be regretted that space will not allow quotations from this curiously interesting book.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

A PRELIMINARY REPORT UPON THE MICROSCOPICAL ORGANISMS FOUND IN THE BROOKLYN WATER SUPPLY.

BY SMITH ELY JELLIFFE, M.D.,

Instructor in Materia Medica and Botany, Brooklyn College of Pharmacy; Member of Cryptogamic Committee of Torrey Botanical Club; Curator of Herbarium of Brooklyn Institute of Arts and Sciences

Within the past ten or fifteen years a certain amount of work has been done upon the water supplies of cities and towns both large and small, and more or less complete chemical and biological analyses have been added to the store of knowledge. In the European cities the examination of the various water supplies has been thorough and of a long standing, and special legislative measures have been enacted to guard the sources of water supplies from contamination, but until within recent years but little of this special work has been carried on within the United States.

The publication of the "Examinations by the State Board of Health of the Water Supplies and Inland Waters of Massachusetts, 1887-1890" marks an epoch in the history of the more exact knowledge of the living forms that are found in the water supplies of this country; the work is one of great magnitude and reflects great credit upon the Massachusetts State Board of Health. The Connecticut Board of Health published in 1891 complete lists of the microscopical organisms found in the drinking waters within the State, and it is to be hoped that other State Boards will do the same for their respective water supplies.

Individual workers throughout the country have from time to time made more or less complete lists of the organisms found in their respective localities, as Mr. C. M. Vorce has done for the city of Cleveland; Mr. G. W. Rafter for Rochester; Mr. B. M. Thomas for Chicago; Messrs. Mills and Kellicott for the city of Buffalo and others to be found in the short bibliography at the end of this article. All of these have been of much importance and will undoubtedly serve in future investigations.

The study of the Brooklyn water supply has occupied the attention of but few investigators; the earliest contribution that has been found is contained in the Fourth Annual Report of the Metropolitan Board of Health, 1869, in an article by W. B. Lewis, M.D., entitled "Microscopical Examinations of the Croton and Ridgewood Waters." In this report he states that thirty-two species of organisms had been found, eleven vegetable and twenty-one animal; he figures some forty-two species, some of which are drawn from the Croton water supply. Though but a small contribution, it is one of historical interest. The Board of Health Annual Reports have contained now and then some brief mention of a few organisms found, but nothing of a more definite character has been recorded. Through the courtesy of Dr. W. H. Bates I have been enabled to see in MSS. some of the results of an examination carried on during the years 1880-1882, and derived much information from the then existing forms, about which I hope to speak further in a subsequent report. The contribution of Drs. E. H. Bartley and A. C. Brush, made to the Kings County Medical Society last year, in regard to certain experimental work upon the Hæmatazoon malariæ, Lav., completes the list of notices bearing upon the subject that I have been able to find.

The study of the Brooklyn water supply of which this communication is a preliminary report, has for its objects:

(1.) The knowledge of the organisms found, their relative numbers and their seasonal distribution.

(2.) The sanitary relations of these organisms to drinking water.

The water supply of the city of Brooklyn, exclusive of the recently acquired 26th Ward, is drawn from a series of ponds and streams lying on the south side of Long Island, from Jamaica to Rockland Centre, and by the recent extention further to Massapequa; in all there are ten ponds. In general, surface and ground waters constitute the supply, the largest part of which is surface water. From Jamaica the water is pumped to the distributing reservoir on Ridgewood Heights, from which the main supply of the city is drawn; a portion of this is pumped into the Prospect Heights Reservoir—this is the source that has supplied the water upon which the observations have been made.

The examinations were commenced in October, 1892, but not until November 1st were they tabulated; the first month having been spent in miscellaneous experiments to determine the best methods for the work in hand. Many forms of filtering apparatus were used, including fine sand, cloth, paper and cotton, and the force of the running water was varied with different results. Without going too extensively into the details of the methods employed and the experiments upon the other methods, the one chosen gave results which must be looked at from several points of view. It is inferior to the Sedgewick-Rafter method if it were determined that a more or less accurate count of the organisms present was to be the issue; but feeling that the main point to determine at present was the kinds of organisms present rather than their numbers, the Sedgewick-Rafter method (as described) was not adopted and simple filtration through cotton was followed as a routine procedure.

A piece of surgeon's absorbent cotton, four to five inches square and about one inch thick, was tied firmly to the end of the faucet by means of a nine-inch square of unbleached muslin, the water was then allowed to run from twelve to twenty-four hours. The cotton filter, generally quite brown, was then removed and the whole, in divided pieces, shaken clear of the entangled organisms in a series of five beaker glasses containing 1,000 c. c., the whiteness of the cotton being the sign of its freedom from organisms. The beakers were then covered and the debris permitted to settle, after which the whole deposit was collected into a single glass containing 25 c. c., from which vessel the examinations were made, by transferal to a slide by a pipette and the microscopical investigation followed.

Two experiments directly bearing on the method were made. (1.) How many organisms passed through the cotton filter? This

was investigated by having another filter about the first and even a third one about the second; the examinations of the cotton direct showed that few organisms passed the first filter and in three examinations made none were found in the third.

(2.) How many organisms does the cotton contain after thorough shaking in the beakers? This is the most vulnerable part of the procedure, as it would seem that a number of organisms would be retained; but repeated microscopical examinations of the cotton showed that the entangled materials were few, and when taken in conjunction with the vast amount of material gathered, the error would be very small, and in no instance has there been found an organism in the cotton that on account of its size or spines had been retained, which has not been found in the filtrate and in proportionately greater numbers. However, the method is not reliable for numerical data, but the facility of application, and the great amount of material gathered made it an especially convenient method in the investigation in question.

A portion of the material was preserved in $\frac{1}{2}$ per cent. carbolic water for purposes of future reference and corroboration. The examinations were made weekly and on the average about seven fields were searched daily; the number of examinations numbering 1,381. A reference to the tables show the details of the six months' work.

The classification of Prof. Sedgewick, viz.: (1) Microörganisms; or those organisms requiring special culture methods for purposes of identification and generally vegetable; (2) The microscopical organisms, both animal and vegetable and not requiring such methods; is an extremely happy one, supplying a title to include just the classes that are the subject of this paper. A further classification into the mineral, vegetable and animal forms can be made.

Sand has been found in but two instances, both of which occurring at the period during which the water was low in the reservoirs, due to mishap in the pumping stations.

The vegetable forms found fall into two classes, Phanerogams or higher plants, and Cryptogams, the lower plants, mainly Algæ. On account of their size there were no complete Phanerogamic plants found, but fragments of both characteristic land and water plants were encountered; pine tracheids, parenchyma, schlerenchyma, spiral vessels, bast and trichomes were found at frequent intervals. During April pine pollen made its appearance, and two other pollens whose affinities have not yet been traced. Among the Cryptogams a few Fungus spores were met with, but

by far the largest contribution belongs to the Algæ. A list of all the species determined will be found in the list, and it has seemed advisable to speak particularly of only such forms that were either remarkably plentiful or that may be of interest from some botanical standpoint.

The effect of the winter's cold was most marked upon the distribution of the Desmids. In November and the early part of December twenty-six species were encountered; there was a diminution quite marked during the latter part of December; an almost complete lapse in January with a slowly increasing representation as the temperature of the water grew higher. The occurrence of Hyalotheca dissilliens, Desmidium Aptogonium, Closterium rostratum and Docidium Trabeculæ in such large quantities and in such marked conjunction, is of especial interest. The species of Micrasterias are always objects of interest on account of their size and beauty. Of the thirty-four species found distributed among the ten genera, the genus Staurastrum alone contributed eleven. With the single exception of Docidium Trabeculæ the sizes of the Desmids have been quite uniform; Docidium has varied from 10–50 per cent. in all its diameters. A few forms have been left undetermined but it is hoped that they can all be cleared up before the close of the year.

The Diatoms have been constant and universal, the variation being slight, as a study of the tables will show. Several species, Asterionella formosa, Synedra Ulna, Tabellaria floculosa, Tabellaria fenestrata, Melosira granulata and Fragilaria capucina have occured in fairly constant proportions every week since the examinations were commenced. The curve of the growth of Asterionella formosa would show two points of increase and two of decrease within the six months. At the beginning of the examinations it was found to be quite common; it increased steadily until about the 2d to 10th of December, when the organism was extremely abundant; it then steadily decreased until about the middle of February, when from this time until the middle of April the growth was again upon the increase, reaching its height the third week in April; from which time it again decreased and by the 10th of May (not in the list) had almost disappeared. None of the other diatoms have exhibited such a life history, having been as a rule more or less constant in their distribution. It may be noted that one specimen of Surirella elegans was found on Jan. 29; finding such a large diatom in the winter months is of interest, but it may be said that the water was very low at this time and that this species was found in quantities in the mud at

the bottom of the reservoir when it was cleaned in 1891. The occurrence of Amphiprora ornata and of Rhizosolenia gracilis in such abundance is of botanical interest, as neither of them are particularly common diatoms; to discover the presence of Rhizosolenia gracilis the field must be dry.

Among the Chlorophyceæ, two species, Rhaphidium polymorphum and Scenedesmus caudatus, were very well represented throughout the entire period of examination. The occurrence of Spirogyra tenuissima with Spirogyra varians at the time of the "water famine" was quite remarkable: its sudden and abundant onset and its almost as sudden decrease. For four weeks, Jan. 29th–Feb. 25th it was found in large quantities, almost completely hiding the other organisms under the microscope, S. tenuissima occurring in great quantities, while S. varians was found accompanying but in much smaller numbers. It was also found along the sides of the Ridgewood and Prospect Park reservoirs, where I am inclined to believe it had its origin, or rather its increased growth. A single specimen of Volvox globator was taken, and numerous developmental forms of Pandorina morum and others of the higher algæ, all of which last were left undetermined. The familiar "blue green" algæ, for some time the bugbears of the lovers of pure water, were conspicuous by their absence, two species of Oscillaria being all that were found in the six months of investigation, and these in very small quantities.

Some experimental work was done with the Bacteria, but it was only of a rudimentary nature; Esmarch rolls were made once a month and a few species only were isolated; three with comparative certainty, the fourth, Bacillus violaceus, still remains with a query.

The animal forms found were twenty-eight in number, and were distributed under five divisions, Rhizopods, Infusoria, Rotiferæ, Crustacea and Vermes.

Of the Rhizopods five species were found, Actinophyrs sol (the sun animalcule) being the most constant species found, and varying greatly in its diameter and length of rays.

The Infusoria have been more plentiful, some twenty-two or twenty-three species having been observed; but as a few of these have not yet been satisfactorily identified they have been omitted from the plates. Dinobryon sertularia and Paramonas globosa have been more or less constant throughout the six months, the former having varied more in number than the latter. Dinobryon was quite common and almost abundant throughout the winter and up to the 1st of March, since which time fewer numbers have

been encountered. Peridinium tabulatum has been fairly constant, but during the winter months in general only dead specimens were found. In every specimen of water examined, Pleuromonas jaculans has been found on the second to third day after the time of collection; at first in small numbers, gradually increasing until quantities of the jerky little Infusoria were seen. It was also noted that other species notably increased some days after the time of collection; the species just cited, Euglena sp. indet. and species of Vorticella, Chilodon and Paramecium would appear in the sample in abundance at the end of the week, while at the time of collection but few or none were encountered; the early experiments in October emphasized this fact already noted by other enquirers and led to the routine of poisoning one half of the gathering as soon as it was cleansed from the cotton. The ciliate Infusoria, have not yet been frequent, only two species of Vorticella being found, and these in small quantities, as were Chilodon and Paramecium. No specimens of the Tentaculateæ were observed.

Eleven species of Rotifers were found, of which four were in good enough condition to determine and to figure—those met with were common species of fresh, water ponds; generally distributed and call for no special mention.

Among the Crustacea, Cyclops quadricornis was the only species certainly identified; there were numerous fragments of may be other species and evidences of Bosmina and Daphnia with two others; these have not yet been included in the list until further study can be given to them.

Of the Vermes one species, Anguillula fluviatilis, has been found, it being in small numbers and in developmental forms.

This short resumé completes the consideration of the individual species and leads to the second part of the inquiry.

Of what sanitary importance is the knowledge acquired?

Since the advent of the bacteria all other kinds of creatures living or dead have retired into the background as having nothing to do with the production of disease or even of discomfort; but that certain facts have come to light regarding the higher forms in relation to the well-being of a community is a position that within the past few years has been most abundantly proven by a number of observers. A perfectly pure water is free from all organisms, but given a number of organized vegetable and animal forms which may break down by mechanical or other means, there is provided immediately a more or less rich albuminous pabulum which will assist in the growth of both pathogenic and non-

pathogenic organisms; in addition to this evident position many of the organisms observed give a more or less definite idea from whence a water supply is drawn; if the "blue green" algæ, Oscillaria, Clathrocystis, Palmella are found, it is an evidence that the water supply is being drawn from some shallow or stagnant pool, and it is a matter of sanitary importance to know that fact: the results thus far in the case of Brooklyn's water supply shows little or no such evidences of this particular kind of contamination.

Again, there are a number of microscopical organisms which of *themselves* though not pathogenic are distinctly obnoxious as inhabitants of a drinking water on account of their taste and odor, when found in large quantities. This subject of the relation of taste and odor to certain Algæ and Infusoria has received more or less attention from biologists both in this country and abroad, and and it is definitely ascertained that certain species, apart from decomposition, impart distinct tastes and odors to the water in which they are found. Messrs. Farlow, Forbes, Burgess, Remsen, Rafter and Sedgewick have each and severally contributed to the subject.

Mr. F. F. Forbes states that the Asterionella formosa when found in large quantities, 250,000 in 50 c. c. of water, will render the water totally unfit to drink, imparting to it a distinctly fishy odor; as this diatom has been especially prevalent in the water supply it has been measured and found to run from 100–1,000 to the c. c., thus coming well under the limit that would cause any disturbance. Uvella (Synura Uvella, Ehr)? is stated by the same writer to give a distinctly acid taste to the water when 500 colonies to 50 c. c. are found, rendering the water unfit to drink. Synura Uvella have been found in Ridgewood water, but as yet in very small quantities, not over 1 to the c. c., but the summer months may show an increase. Dinobryon sertularia in quantities of 75,000 to 50 c. c. render the water unpleasant to drink. Dinobryon in the Brooklyn water supply has reached 300 to the c. c. during the winter months. Many investigators have written of the Volvox globator as a source of evil to the water supply, but as yet Volvox has been extremely scarce in the city supply.

That the microscopical examination of water can reveal the presence of sewerage contamination is abundantly well shown in an article by Mr. Geo. W. Rafter in the American Monthly Microscopical Journal for May, 1893, which is the most recent paper upon the general subject. The presence of epithelium scales, which were noted in great abundance during the first week

in April, following the severe rains of that period, has suggested the query of contamination from some of the barnyards along the ponds that furnish the water for Brooklyn. The characteristics of the tissue elements in the foods used by the domestic animals serve to locate some of the pieces of parenchyma, tracheids, vessels and ducts; it is, however, a matter of great difficulty to identify the source of tissue elements when so completely disintegrated as they are after the journey through the mains.

This completes the preliminary report for the six months from Nov. 1, 1892, to May 1, 1893, with a list of 112 species; 84 vegetable, 28 animal; the examinations will be continued to the close of the twelve months, when a year's report is hoped to be given.

During the summer months it is desired that a more rigid application of the Sedgewick-Rafter methods may be applied to certain species, which have been demonstrated to be of special importance, and that a better comparative knowledge be gained to contrast with the water supplies of other cities. The writer feels that it is a matter to be regretted that specific as well as generic determinations are not generally given in the work upon the subject thus far; this is perhaps a question for the botanists and zoologists rather than the biologists, but that specific determinations are essential and of greater value than merely generic ones, where a host of widely different plants are collected under one name, seems to be a point that can admit of little argument.

LISTS SHOWING THE DISTRIBUTION OF THE ORGANISMS.

Pr. = Present and not computed; Sc. = Scarce, 1–5 to the c. c.; Fw. = Few, 5–10 to the c. c.; C. = Common, 10–25 to the c. c.; Ab. = Abundant, over 25 to the c. c.; these figures are only approximate, they have been obtained by an application of the Sedgewick-Rafter method for a small quantity of water and then approximations were made to correspond for the large quantities filtered; in general it may be said that the number of organisms run along the lowest limit rather than the highest: thus Sc. would generally indicate 1 to the c. c., or even only 1 organism found in 10–20 c. c. of water; few, rarely more than 5 to the c. c., and so on; in some cases, as Asterionella, the limits would be exceeded.

	1892				1893.																						
	Nov. 1.	Nov. 16.	Nov. 23.	Nov. 30.	Dec. 2.	Dec. 10.	Dec. 17.	Dec. 24.	Jan. 1.	Jan. 8.	Jan. 15.	Jan. 22.	Jan. 29.	Feb. 4.	Feb. 11	Feb. 18.	Feb. 25.	March 5.	March 12.	March 19.	March 26.	April 2.	April 9.	April 16.	April 23.		
Bacteria.																											
Bacillus subtilis	..			Pr	...	...		Pr			..			Pr			...	Pr	...			Pr					
,, fluorescens liquefaciens		..		Pr				Pr						Pr				Pr		...		Pr			..		
,, ,, non-liquefaciens			..	Pr	.	.		Pr			..	..	..	Pr				Pr	..				..				
,, violaceus (?)		...		Pr	...	..		..	...					...	...								...	..			
Cyanophyceæ.																											
Oscillaria limosa	...		...	..	...		Sc							Sc	Fw	Fw											
,, Froelechii	.					...							...		...			Sc	Sc	Fw							
Diatomeæ.																											
Amphora ovalis	..		..		...		Sc	..	..	...			...				...						..				
Encyonema ventricosa	...			...	Sc	...					Sc		...		Sc	Sc	Sc	Sc	Fw		...	Sc					
Stauroneis anceps		.	Fw			.	..		..		Sc	...			Sc		Sc										
,, Phœnicenteron	...	...	...		...	..								Sc	..		..							..			
Navicula cuspidata		. .	.			..						..		...	Sc		Fw	Fw	Sc	Fw							
,, dilatata		...		.	. .	Sc				..					...				..			...					
,, gibba	...	..		...	..	Sc		..				.			Sc	Sc	Sc	Sc	Sc				Sc				
,, radiosa	Fw		..	...	Fw				Sc	Sc	Sc	Sc			Sc	..	Sc		..	...	Sc	Sc	...	Sc			
,, rhyncocephala (?)	...	..	..		Sc	..							...				..				...			Sc			
,, viridis			..			..	Sc	Sc					..		Sc	...	..	Sc	Sc				Sc		...		
Pleurosigma Spenceri	..						Sc																Sc				

Diatomeæ—contd.																									
Amphiprora ornata		Fw	C	Sc	Sc		...			Sc						Sc		Sc		Sc	Sc	Sc	Sc	Sc	Sc
Gomphonema acuminatum							Sc	Sc	Sc	Sc	Sc	Sc		Sc	..		Sc	Sc	Fw	Fw		Sc		Sc	
,, capitatum														Sc					..			...			
Cocconeis Pediculus			...															Sc		...					
Eunotia lunaris	...		...			.	...	Sc			...	...	...	...	...	...								Sc	
,, tridentula		Sc			Sc		Sc	Sc				Sc			Sc		Sc	Sc		..		Sc		Sc	...
Synedra pulchella	Ab	Ab	Ab	C	Fw		Sc	Sc	Fw		Fw	Fw				...			..			...		Fw	Fw
,, Ulna	C	C			Fw	Fw	C	Fw	C	C	Fw	Fw	Fw	Fw	Fw	Ab	C	C	C	C	C	C	C	C	Fw
Fragilaria capucina			Fw	Fw	Fw	C	C	C	C	C	C	Fw	Fw	C	C	C	Fw	C	C		C		Fw	Fw	Fw
Asterionella formosa	C	Ab	Ab	Ab	Ab	Ab	Ab	C	Fw	Fw	Fw	Fw	Fw	Sc	Sc	Fw	C	C	C	C	C	Ab	Ab	C	Fw
Meridion circulare			...	...						Sc		Sc		Fw	Sc	Sc	Sc	Sc			Sc	Sc	Sc		
Tabellaria fenestrata	Ab	Ab	Ab	C	C	C	C	Fw	Fw	Fw	Fw	Sc	Fw	C	C	C	C	A	C	C	C	C	C	C	Fw
,, flocculosa	Cx	Cx	Cx	C	C	C	Sc	Sc	Fw	Fw	Fw	Fw	Sc	Fw	C	C	Fw	Fw	C	C	C	C	C	C	Fw
Surirella elegans				...	...						...	...	Sc												
Melosira granulata	Ab	Ab	Ab	C	C	Ab	Ab	Ab	C	Fw	C	C	Fw	Fw	Fw	Fw	Fw	C	Fw	Fw	C	Fw	C	C	Fw
,, varians	...		...		...	..	..		...		Sc	Sc		...		...	...							..	
Rhizosolenia gracilis	Ab	Ab	Fw	Fw	Fw	Fw	Fw	C	C	Sc	C	Fw							..		Sc	Fw	Fw	Fw	
Stephanodiscus minutus	Pr	Pr	Pr	Pr	C	Fw	Sc				...			..	...	...						Sc	Fw	Fw	
Conjugatæ.																									
Spirogyra tenuissima				...		...					Sc	Ab	Ab	Ab	Ab	C	C	C	C	Fw	Sc				
,, varians				. ..	Fw	Sc	...			Fw	C	Fw		...	Sc	Sc	Sc		Sc		Sc	...		...	.. .
Desmidieæ.																									
Hyalotheca disilliens	...			..				..		Sc			Fw	Fw	C	C	C	C	C	C	C	Fw	Fw	Sc	

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Desmidiæ—contd.																										
Desmidium Aptogonium			Sc		Fw								..	...	Fw	C	C			Fw	C	C	C	C	Fw	
„ Baileyi			...					...				...			..								Sc			
Sphærozosma filiforme					Sc											..					. ..	...		Sc	Sc	Sc
„ excavatum							Sc			...	..	..	..	Sc		Sc										
Closterium gracile								..						...			..			Sc	...			...		
„ striolatum		...	Fw				...	Sc		...						...	...					..				
„ Dianæ	..	..		Sc						Sc		..			.	Fw	Fw	Fw	Sc		Sc	Fw	Sc	Fw		Sc
„ ensis					.. .										..			...	...	Sc						
„ rostratum		...	..				...				...			Sc	C	C	C	C	C	C	C	C	Fw	Fw	Sc	Sc
Docidium Trabecula			Sc		Fw											Fw	Fw	Fw	Fw	Fw	C	C	Fw	Fw	Fw	Fw
Cosmarium moniliforme	...				Fw			...			Sc						Sc		...							
„ Beckii		Sc					...									Sc				...				...	Sc	
Xanthidium cristatum		...	..	Fw							...															
„ antelopæum			Fw	Ab	Fw		Sc	...		..		...	..	...		Sc		...		Sc			...	...		
Arthrodesmus Incus					Fw																				Fw	Fw
„ octocornis					Fw		Fw			...		..			...			..							.	Sc
Micrasterias Torreyi	...	...	Sc			...													...							
„ radiosa			..		. ..			...				...	...							Sc	Fw	Fw		.. .		...
„ denticulata			...	...	..																	Sc				
„ fimbriata	...		Fw	Fw	Fw	Fw		...		...				..					...					Fw	Fw	

Desmidieæ—contd.																									
Micrasterias Americana			Fw	Fw		..			...								...		Sc	Fw	Fw		Fw	Fw	...
Staurastrum dejectum		Fw	Ab														Sc								
,, brevispina					Fw		Sc	...			Sc	..				Sc	...	..					Sc	..	Sc
,, aristiferum		Sc	..		Fw						..												Sc		
,, cuspidatum	...				Fw			Sc																	
,, polymorphum					Fw																			Sc	
,, crenulatum	Fw				Fw	..		Sc		Fw		.		..		Sc		S c		Sc				Sc	
,, punctulatum			..		Sc			...																	
,, brachiatum	...	Fw		...									...												
,, Sebaldi			...	...		..														Sc					.. .
,, hirsutum	...	...						...						Sc			Sc	Sc		Sc	...			Sc	
,, arctiscon			C	C	Fw	Fw	...				..						Sc		Sc	Fw	Fw	Fw			
PROTOCOCOIDEÆ.																									
Rhaphidium polymorphum			Fw	Ab	C	Fw	Fw	Sc	Fw	Fw	Sc	Sc	Sc	Sc			Sc	Sc		Fw	Fw	Sc	Fw	Sc	Sc
Var. aciculare				...					Fw					...		...									..
,, sigmoidea									Sc		Sc				...	...						...			
Dictyosphærium Ehrenberghiana							Fw	Sc	Sc		Sc												Sc	Sc	Fw
Polyedrium longispina					Fw		Sc		Fw		...						..				...	Sc	Fw	Sc	Sc
Protococcus viridis	C	Ab	Fw			..				...		Sc				...					Sc				
Characium Naegeli	Sc						...					...				...		...							
Scenedesmus caudatus	C	Ab	Ab		C	C	Fw	Sc	Fw	Fw	Fw	Sc	Fw	Fw	Fw	Fw	Sc	Sc		Sc	Sc	Sc	Fw	Fw	Fw
,, dimorphus											Sc									..					
Pediastrum Boryanum	C			Ab	C	Fw	Sc			Sc			...	...					Sc		Fw	Sc	Fw	Sc	Fw
,, Ehrenberghii	C				C			Sc	Sc		Sc	F				...		..					Fw	Sc	Fw

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Protococcoidea—contd.																									
Pediastrum pertusum	...	..		Fw	Fw	Sc		Sc					..	...		..		...							
Pandorina morum	..				Sc	...		.					...	...		...		..		...					..
Volvox globator	Sc			...								...	...	...				...			..				...
Plant parenchyma	Sc		...				..			Fw	...	Fw	C	C	Fw		Sc		...	Sc	..				
Spiral vessels					Sc								Fw	Fw	Fw		...								
Ducts	...			Sc								..		...					...		...	Sc	Sc		...
Tracheids		Sc		...	..						Sc				Sc			...		Sc					
Trichomes					Sc			...			...		..	Sc		...		Sc			..				
Pine pollen		..	...		...				...										...	Sc				Sc	Sc
ANIMAL FORMS.																									
Rhizopods.																									
Amœba proteus	...				Sc		..		Sc			...		Sc	Sc										
„ radiosa					Sc				Sc		...			Sc	Sc			..							
Arcella vulgaris			...						...			...		...	..		...			..		Sc	Sc		
Euglypha alveolata			...						...						Sc	Sc	...			...			Sc		
Actinophrys sol		...			Sc		Sc		Sc					Sc		..	..	Fw					Fw	Sc	
Infusoria.																									
Pleuromonas jaculans	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	F	Fw	Fw	Fw	Fw	Fw	Fw
Paramonas globosa (?)	C	C	C	..	C			...	C		C	Fw		Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw	Fw
Dinobryon sertularia	C	C	C	..	C	C	..	Fw	C	Ab	C	C	C	C	C	C	Fw	C	Fw	Fw	Fw	Fw	Sc	Sc	Sc

Infusoria—contd.																									
Euglena viridis					Sc				Sc			Sc							Fw			C			
„ acus								Sc																	
Trachelomonas cylindrica																								Sc	Sc
„ piscatoris (?)																								Sc	
Mallamonas Plosslii							Fw	Fw	Fw	Fw	Sc			Sc		Fw	Fw	Fw		Fw	Fw		Sc	Sc	
Astasia trichophora																								Sc	
Synura Uvella																								Sc	
Peridinium tabulatum	C	C	C		C	Fw	C	Sc	Sc		Sc		Sc	Sc		Fw			Fw		Sc	Sc	Sc	Sc	Sc
Gymnodinium fuscum					C			Sc	Sc	Sc				Sc	Sc										
Paramecium bursaria					Sc?								Sc?		Sc	Sc	Sc		Fw	Sc				Sc	
Vorticella communis																			Fw			Sc		Sc	
„ microstoma														Sc											
Litonotus fasciola																				Sc				Sc	
Chilodon cucullulus																						Fw	Sc		
Rotiferæ.																									
Monostyla lunaris										Sc				Sc	Sc		Sc					Sc			
Polyarthra platyptera															Sc			Sc		Sc					
Anurea cochlearis																			Sc						
Brachionus urceolaris																				Sc					
Crustacea.																									
Cyclops quadricornis											Sc			Sc			Sc	Sc		Sc	Sc	Sc			
Vermes.																									
Anguillula fluviatilis																	Sc	Sc			Sc	Sc	Sc		
Animal epithelium (?)																							Pr		

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DESCRIPTION OF PLATES.

All of the figures in Plate I. are amplified 250 diameters unless otherwise stated.

Figs. 1, 2, 3. Amœba proteus, (Rösel) Leidy, in three shapes.

Fig. 4. A small unknown Amœba, probably young proteus.

Figs. 5, 6 Amœba radiosa, Ehr.

Fig. 7. Arcella vulgaris, Ehr. View from above and section.

Figs 8, and 10. Actinophrys sol., Ehr. Three stages.

Fig. 9. Euglypha alveolata, Duj.

Figs. 11 to 15. Astasia trichophora, Ehr. In five succeeding shapes.

Fig. 16. Dinobryon sertularia, Ehr. Colony x 200, individual x 600.

Fig. 17. Pleuromonas jaculans, Pty.

Fig. 18. Monas sp. indet.

Fig. 19. Sp. indet.

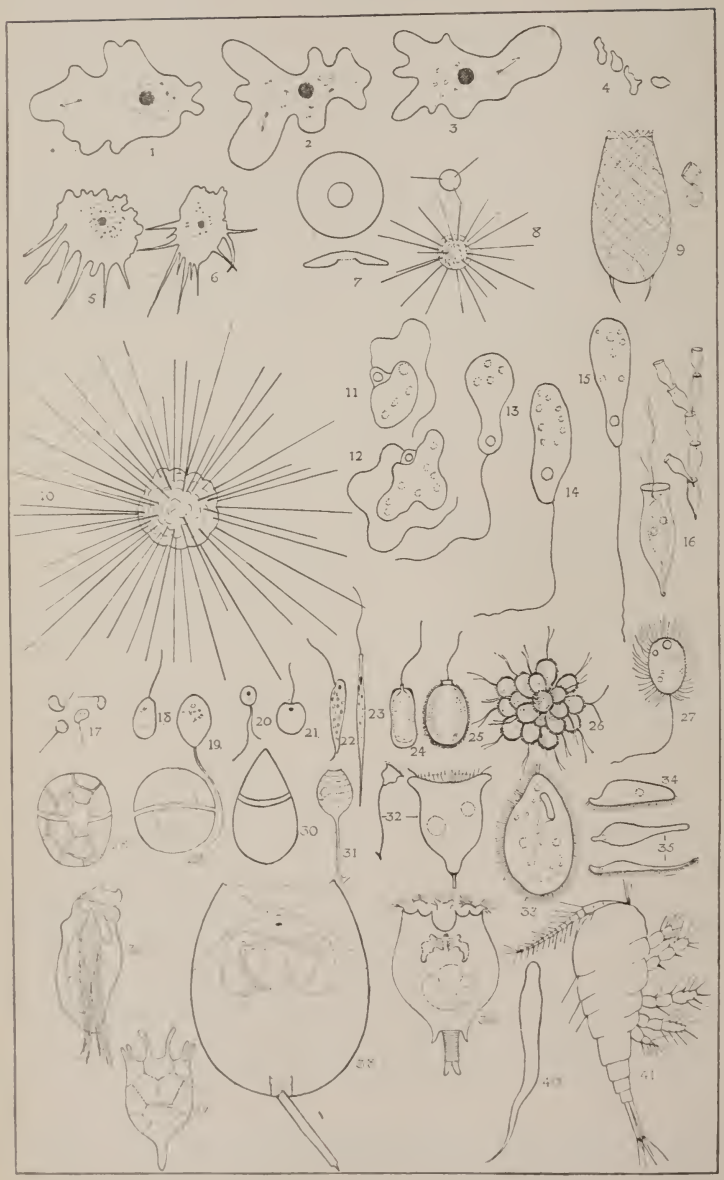


PLATE I.

Fig. 20. Heteromita lens. Müll.
Fig. 21. Paramonas globosa, From.
Fig. 22. Euglena viridis, Ehr.
Fig. 23. Euglena acus, Ehr.
Fig. 24. Trachelomonas cylindrica, Ehr.
Fig. 25. Trachelomonas piscatoris, Fisher.(?)
Fig. 26. Synura Uvella, Ehr.
Fig. 27. Mallamonas Ploslii, Pty.
Fig. 28, 29. Peridinium tabulatum, Ehr.
Fig. 30. Gymnodinium fuscum, Ehr.
Fig. 31. Vorticella microstoma, Ehr.
Fig. 32. Vorticella communis, Ehr., x 25 and 250.
Fig. 33. Paramecium bursaria, Ehr.
Fig. 34. Chilodon cucullulus, Müll.
Fig. 35. Litonotus fasciola, Ehr. superior surface and section.
Fig. 36. Polyarthra platyptera, Ehr. x. 50.
Fig. 37. Anurea cochlearis, Gosse. x. 50.
Fig. 38. Monostyla lunaris, Ehr. x. 50.
Fig. 39. Brachionus urceolaris, Ehr. x. 50.
Fig. 40. Anguillula fluviatilis.
Fig. 41. Cyclops quadricornis, x 75.

The figures on Plate II. are all amplified 250 diameters.

Fig. 1. Hyalotheca disilliens, (Smith) Breb.
Fig. 2. Desmidium Aptogonium, Breb.
Fig. 3. Desmidium Baileyi, Ralfs.
Fig. 4. Sphærozosma filiforme, Rab.
Fig. 5. Sphærozosma excavatum, Ralfs.
Fig. 6. Closterium striolatum, Ehr.
Fig. 7. Cosmarium moniliforme, Ralfs.
Fig. 8. Cosmarium Beckii, Willey.
Fig. 9. Closterium Dianæ, Ehr.
Fig. 10. Closterium ensis, Delp.
Fig. 11. Closterium gracile, Breb.
Fig. 12. Closterium rostratum, Ehr.
Fig. 13. Docidium Trabecula, (Ehr.) Næg.
Fig. 14. Arthrodesmus Incus, (Ehr.) Hass.
Fig. 15. Arthrodesmus octocornis, Ehr.
Fig. 16. Xanthidium cristatum, (Breb.) Ralfs.
Fig. 17. Xanthidium antilopæum, (Breb.) Kg.
Fig. 18. Micrasterias radiosa, (Ag.) Ralfs. One half shown only.
Fig. 19. Micrasterias fimbriata, Ralfs. One half shown only.
Fig. 20. Micrasterias denticulata, (Breb.) Ralfs., One half shown only.

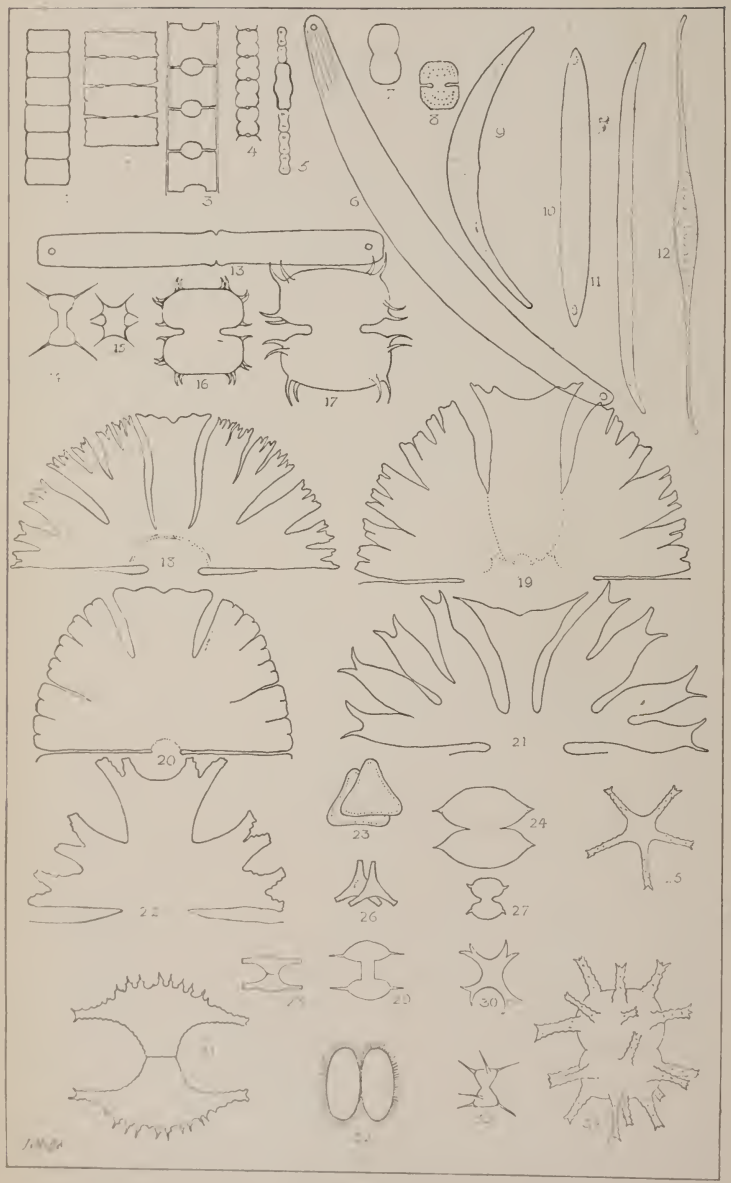


PLATE II.

Fig. 21. Micrasterias Torreyi, (Bailey) Ralfs. One half shown only.

Fig. 22. Micrasterias Americana, (Ehr.) Kg. One half shown only.

Fig. 23. Staurastrum punctulatum, Breb.

Fig. 24. Staurastrum brevispina, Breb.

Fig. 25. Staurastrum pentacladum, Wolle.

Fig. 26. Staurastrum crenulatum, (Delp.) Næg. Front view.

Fig. 27. Staurastrum dejectum, Breb.

Fig. 28. Staurastrum crenulatum, (Delp.) Næg. Side view.

Fig. 29. Staurastrum cuspidatum, Breb.

Fig. 30. Staurastrum brachiatum, Ralfs.

Fig. 31. Staurastrum Sebaldi, Reinsch.

Fig. 32. Staurastrum hirsutum, (Ehr.) Breb.

Fig. 33. Staurastrum aristiferum, Ralfs.

Fig. 34. Staurastrum arctiscon, Ehr.

The figures in Plate III. are all amplified 250 diameters.

Fig. 1. Amphora ovalis, Kütz.

Fig. 2. Encyonema ventricosa, Kütz.

Fig. 3. Stauroneis anceps, Ehr.

Fig. 4. Stauroneis Phœnicenteron, Ehr.

Fig. 5. Navicula cuspidata, Kütz.

Fig. 6. Navicula radiosa, Kütz.

Fig. 7. Navicula gibba (Kütz.) Ehr.

Fig. 8. Navicula dilatata, Ehr.

Fig. 9. Navicula viridis, Kütz.

Fig. 10. Pleurosigma Spenceri, W. Sm.

Fig. 11. Amphiprora ornata, Bailey.

Fig. 12. Gomphonema capitatum, Ehr.

Fig. 13. Gomphonema acuminatum, Ehr.

Fig. 14. Cocconeis Pediculus, Ehr.

Fig. 15. Eunotia tridentula, Ehr.

Fig. 16. Eunotia lunaris, (Ehr.) Grun.

Fig. 17. Synedra Ulna, (Nitzsch) Ehr.

Fig. 18. Synedra pulchella, Kg.

Fig. 19. Fragilaria capucina, Desm.

Fig. 20. Asterionella formosa, Hass. A portion.

Fig. 21. Meridion circulare, Ag. A portion.

Fig. 22. Surirella elegans, Ehr.

Fig. 23. Tabellaria fenestrata, Kg.

Fig. 24. Tabellaria flocculosa, (Roth.) Kg.

Fig. 25. Melosira granulata, (Ehr.) Ralfs.

Fig. 26. Melosira varians, Ag.

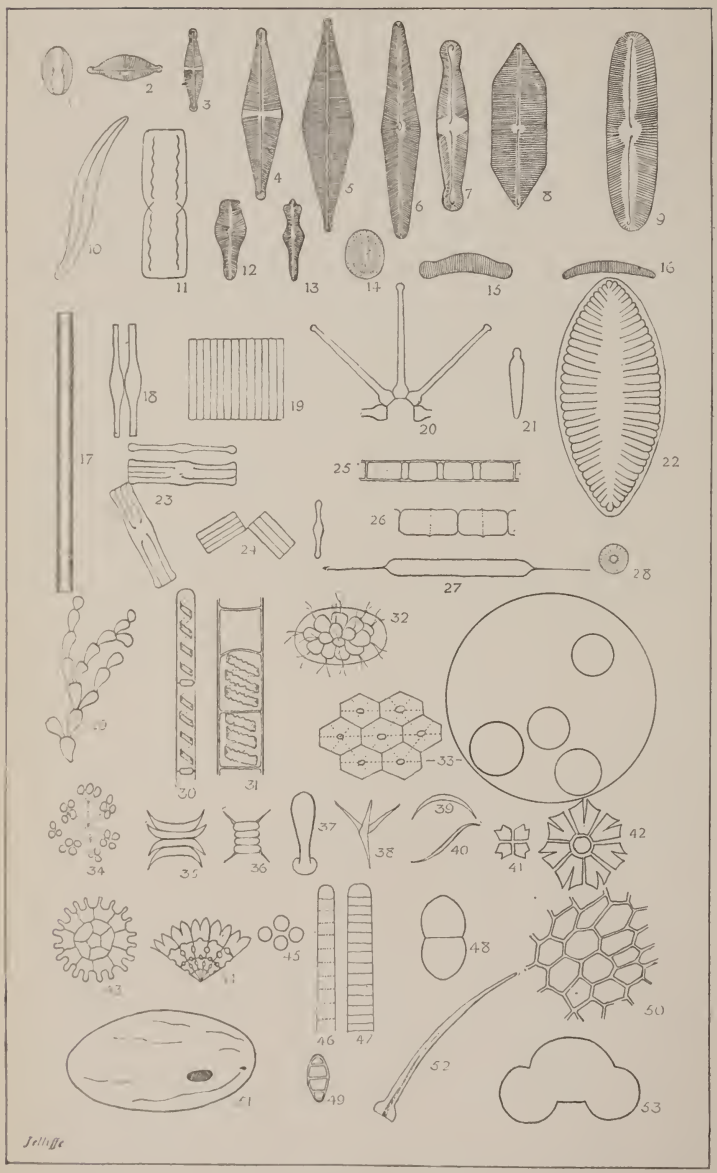


PLATE III.

Fig. 27. Rhizosolenia gracilis, H. L. Smith.
Fig. 28. Stephanodiscus minutus, Grun.
Fig. 29. Coleochæte soluta, Prings.
Fig. 30. Spirogyra tenuissima, Kg.
Fig. 31. Spirogyra varians, (Hass.) Kg.
Fig. 32. Pandorina morum, Bory.
Fig. 33. Volvox globator, L. Single plant and portion of outer wall x 750.
Fig. 34. Dictyosphærium Ehrenberghiana, Næg.
Fig. 35. Scenedesmus dimorphus, Kg.
Fig. 36. Scenedesmus caudatus, Corda.
Fig. 37. Characium Nægeli, A. Br.
Fig. 38. Polyedrium longispina, (Perty) Rab.
Fig. 39. Rhaphidium polymorphum, Fres.
Fig. 40. Rhaphidium polymorphum, var. sigmoidea, Rab.
Fig. 41. Pediastrum Ehrenberghii, (Corda) A. Br.
Fig. 42. Pediastrum Ehrenberghii, var. incisum, Rab.
Fig. 43. Pediastrum Boryanum, (Turp) Men.
Fig. 44. Pediastrum pertusum, Kg.
Fig. 45. Protococcus viridis, Ag.
Fig. 46. Oscillaria limosa, Ag.
Fig. 47. Oscillaria Frœlechii, Kg.
Figs. 48, 49. Fungus spores.
Fig. 50. Parenchyma of some plant.
Fig. 51. Parenchymatic cell resembling some epithelium forms.
Fig. 52. Plant trichome.
Fig. 53. Pollen of Pine.

HYPERTROPHIC HEPATIC CIRRHOSIS, WITH MARKED ICTERUS—A CLINICAL REPORT OF A CASE IN THE WARDS OF THE LONG ISLAND COLLEGE HOSPITAL.

BY FRANK TERRY BROOKS, A.B., M.D.

(To which was awarded the Dudley Medal for 1893.)

I select this case of hypertrophic cirrhosis of the liver with marked icterus for this reason :

I have been able to trace the history of the case for four and one-half (4 1-2) years and have personally followed the patient for over one (1) year.

Aside, therefore, from the somewhat rare form of cirrhosis of

the liver which this patient presents, namely, hypertrophic hepatic cirrhosis with marked icterus, first described by the French writers, P. Olivier, G. Hayem, J. M. Charcot, A. Gombault, V. Cornil and especially Hanot, in a thesis entitled "Etude sur une forme de cirrhose hypertrophique du foie," (Paris, 1876), I am able to trace from the sequence of symptoms the complications to which the initial lesion has given rise.

The particularly interesting features in the patient's physical history are the following:

A hypertrophic condition of the liver, existing for at least four and one-half (4 1-2) years, with no tendency toward contraction. The patient is still living.

A jaundice continuous during this same period in varying degrees of severity.

The entire absence of hydro-peritonæum and of pressure symptoms below the diaphragm.

The marked cachexia with attendant anæmia and emaciation (a loss of nearly one-hundred (100) lbs. in weight).

The sequelæ most especially those referable to the gastro-intestinal tract and to the lungs.

SUMMARY OF HOSPITAL RECORD.

Name.	Mrs. S. K.
Occupation.	Housewife.
Residence.	212 H. Avenue, Brooklyn.
Hospital No.	993. Female Medical.
Admitted.	December 16, 1891.
Service of	Dr. McCorkle, Dr. White, Dr. York.

HISTORY.

Age.	Thirty-nine years.
Nativity.	Ireland.
Color.	White.
Previous health.	Good up to 3 1-2 years ago; no hereditary tendencies; no severe illnesses.
Present condition.	Jaundice, vomiting, abdominal pain, progressive emaciation, gastric irritability.
Diagnosis.	Hypertrophic hepatic cirrhosis.
Treatment.	Diet, chiefly milk. Drugs, mineral acids internally; potassium iodide ointment over liver.
Discharged.	January 25, 1892; improved.

Returned to Hospital.	June 28, 1892.
Services of	Dr. McCorkle, Dr. Colton, Dr. Moore, Dr. Swayze.
Present condition.	Jaundiced somewhat; asthma.
Diagnosis.	Cirrhosis, asthma.
Treatment.	Diet, ward diet. Drugs, treatment symptomatic; chiefly directed to asthmatic condition.
Discharged.	July 18, 1892, somewhat improved.
Returned to Hospital.	October 31, 1892.
Discharged.	October 31, 1892.

Mrs. S. K., housewife, age forty years; nativity Ireland. Came to the United States at sixteen years of age. Family history exceptionally good. Her father is still alive at the age of eighty-one years; her mother died from an accident; brothers and sisters living and well. Patient has been married twelve years. Three (3) children, all born within four (4) years after her marriage; all dying in infancy, one of hydrocephalus, second of entero-colitis, third of cholera infantum. Her labors were normal (she was up three days after her confinements). No miscarriages. Catamenia regular.

Nov. 3, 1891. Patient first presented herself at outdoor department of college for present trouble; had been growing worse for three months previously.

Dec. 7, 1891. First came under my observation at Professor McCorkle's clinic, presented on account of (*a*) a jaundice of 3 1-2 years duration; (*b*) a progressive emaciation, her former weight being 200 lbs., her present 125 lbs.: (*c*) complicating gastro-duodenal symptoms.

An abdominal examination at this time revealed a liver, enlarged, smooth, not nodular; tenderness over gall-bladder, enlarged spleen, epigastric tenderness upon firm pressure.

Dec. 21, 1891, entered hospital.

Jan. 25, 1892, discharged; "jaundice lessened gastro-duodenal symptoms improved."

Continuing as a dispensary patient on Feb. 20, 1892, she suffered from an attack of hæmoptysis lasting one week. Never experienced this before.

May 23, 1892. Visiting my patient, I obtained the following additional history, subjective and objective:

History, subjective:

Prior to year 1888, patient always in perfect health (a large, stout, strong woman), except for (1) the usual minor passing

illnesses; (1) an attack of acute articular rheumatism some fifteen years ago, with slight subsequent attacks; (2) malaria.

June, 1888, had been indisposed for several days, when suddenly after a hearty dinner, she felt exceedingly ill; nausea and vomiting following with severe pain and tenderness in region of stomach and liver. She became jaundiced, stools were clay-colored (I can obtain no history as to passage of biliary calculi at this time). She was confined to her bed for one month, her stomach continued irritable, she rapidly lost in weight, became exceedingly anæmic, and intense jaundice persisted for three months.

In the four years following this first attack, she has been able at times to work; at times her strength has been insufficient for even the lightest household duties.

May 23, 1892. At this time patient complains of severe pain in epigastrium (often at night); all solid foods cause emesis with much mucus; the simplest liquid foods often distress her, soon after eating. Appetite extremely capricious. Bowels usually regular, no subjective renal nor vesical symptoms; no history of hæmatemesis, no pruritus, no dermatogical lesions. Pain in right subscapular region, dyspnœa at times; yet is able to do her own work.

Hygienic surroundings far better than those of her class generally.

History, objective:

Physical signs.

General inspection: The emaciation, anæmia, earthy hue; the slightly dry icterode skin give a marked cachexia to the patient, and though she is only thirty-nine years of age, she looks fifty-nine. Face: No venous stigmata on cheeks. Tongue furred, white, papillæ prominent. Chest inspection: But little expansion even upon deep respirations; palpation, vocal fremitus somewhat increased; percussion, normal; auscultation, normal. Heart inspection: Normal apex beat; palpation and percussion, normal area of cardiac dulness; auscultation, accentuated pulmonary second sound; booming element in aortic second sound as transmitted into carotids. Pulse, at beginning of visit, sixty per minute; at end of visit, forty-eight per minute.

Respiration, eighteen per minute.

Temperature, per orem, 98.50°.

Abdomen, spleen enlarged.

Liver inspection: No evidence of enlargement.

Palpation and percussion; dense, enlarged to umbilicus, smooth, not tender; no tenderness over gall-bladder.

Auscultation, no grating sound

Fig. 1.

Abdominal parietes inspection: No increase in vascularity of cutaneous capillaries, no "caput medusæ."

No distention.

Palpation and percussion, no ascites.

Rectum, no hæmorrhoids.

Kidney excretion reddish yellow in color; sp. g. 1018: no albumen, some bile coloring matter; otherwise, negative.

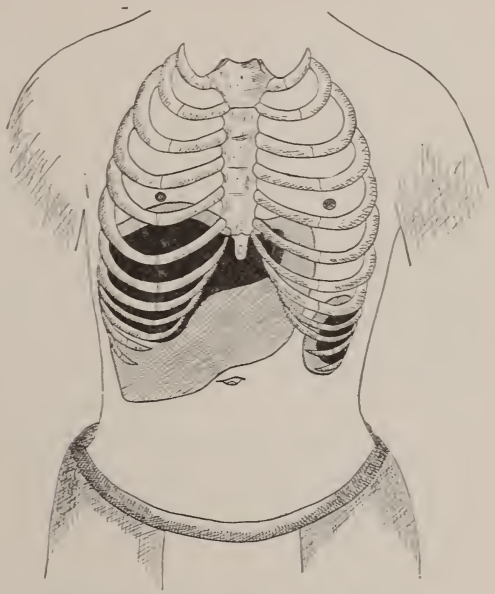


Fig. 1. Showing hypertrophied condition of patient's liver and spleen.

Blood, from an examination of the patient's blood with the Thoma-Zeiss "Blutkörperzählapparat," I find the number of red blood-corpuscles to the cubic millimetre of blood to be approximately 4,000,000 as against 4,500,000 in the average healthy woman. With Fleischl's hæmoglobinometre (best described in Jaksch's Klinische Diagnostik) I find the hæmoglobin reduced to 60 per cent. That is, in the normal condition, 12.59 per cent. of the blood weight is hæmoglobin, in the patient's blood the per cent. of hæmoglobin is reduced to 7.55 per cent.

Briefly expressed, my patient's blood is diminished in red blood cells, 10 per cent.; in hæmoglobin 40 per cent.

The average richness of the individual red blood-corpuscle is therefore denoted by the fraction, 60-90 ($^2/_3$ the normal), the

numerator indicating the hæmoglobin richness ; the denominator, the numerical corpuscular richness.

Macrocytes, present in ratio 1:10; microcytes, less numerous.

Tendency to poikilocytosis, none.

June 28, 1892. Patient re-entered Hospital on account of asthma. Treated symptomatically. Jaundice still quite marked. Discharged.

July 18, 1892. Possibly somewhat improved.

August 13, 1892. Came to Dispensary suffering greatly from asthma.

August 20, 1892. Suddenly worse, great prostration, marked dyspnœa, not expected to live by the physicians in attendance at that time.

Slowly recovering from this attack, on October 26, 1892, I find patient hardly equal to the slightest effort. She still suffers from dyspnœa, her voice is somewhat husky, and she has the cough characteristic of passively congested lungs. She takes cold upon the slightest exposure, she says. She eats but little, she suffers from gastric pain (often at night). At times rejecting both solid and liquid food, she is obliged to depend largely upon stimulants to maintain her existence. She is still excessively anæmic and greatly emaciated. Her jaundice continues, though much less marked ; her eyes have the pearly unnatural brightness of one suffering from inanition and blood dyscrasia. Her heart is feeble pulse, 77 ; respiration 24. She still performs some duties and is not, strictly speaking, confined to her bed.

January 3, 1893. Patient improved again. Is able to do her own (light) work. Complains of vertigo upon exertion.

I enter thus fully into the history, for the long-continuance of the case and the secondary affections as resulting from the original trouble—the diseased liver—are the interesting features in my patient's condition.

SEMEIOLOGY AND DIAGNOSIS.

The acute illness of June, 1888, which precipitated the patient's cirrhosis, I believe to be due to an obstruction to the flow of bile from the liver to the intestine. Flint groups the causes of obstruction under three headings:

First : Abnormalities in the interior of the bile ducts.

Second : Alterations in the wall of the ducts.

Third : Lesions causing pressure upon the bile ducts from without.

Not to recapitulate the symptoms as above narrated, we have sufficient of the salient factors present in my patient's case to refer

the cause of the obstruction principally to the first of the three divisions, namely, abnormalities in the interior of the bile ducts. Whether due to a mucus plug as a result of the extension of an acute gastro duodenitis, to the passage of a biliary calculus, to concretions of inspissated bile, or to the rarer forms of obstruction, while the history will not absolutely elucidate, I am inclined to regard the first of these possibilities as the most reasonable.

I attribute the protracted duration of this attack to the complicating hepatitis, which already in its incipiency at least, caused pressure on the bile ducts from without and hence tended to the continuance of the obstruction, and also to the peri-hepatitis, as indicated by the local tenderness and pain. The further important symptoms of my patient's case naturally follow as sequelæ to her cirrhosis. I will therefore develop my diagnosis from the abdominal physical signs as the most causative, namely, an enlargement in the right hypochondrial, umbilical, and epigastric regions—presumably an enlarged liver—but we must exclude the following possibilities, which I compile in a large measure from my notes on Prof. McCorkle's and Prof. West's lectures and clinics :

(*A*) Of organs, other than liver itself.—An enlargement due to—

1. A neoplasm of ascending or transverse colon;
2. A neoplasm of right kidney—wandering kidney, or hydronephrosis;
3. A neoplasm of stomach;
4. A neoplasm of omentum or peritonæum ;
5. A neoplasm of ovary or uterus;
6. A highly distended gall-bladder (hydrops cystidis fellæ);
7. A neoplasm of pancreas;
8. An aneurism.
9. An abnormal condition of abdominal parietes, as e. g., phantom tumor.

(*B*) Of the liver itself.—An enlargement due to—

1. A malformation;
2. A displacement, either—
 (*a*) Congenital or
 (*b*) Acquired, (*b*) as induced by—
 1. Effusions, extensive, into right pleural cavity or pericardium;
 2. Intrathoracic tumors;
 3. Tumor betwen upper surface of liver and diaphragm, of liver and stomach or within the substance of the diaphragm;

4. Abscess in connection with caries of spine in dorso-lumbar region;

3. Abscess;
4. Hydated cysts;
5. Amyloid, albuminoid, waxy, or lardaceous disease;
6. Parenchymatous degeneration and cloudy swelling;
7. Fatty degeneration;
8. Passive congestion;
9. Malignant diseases, so called;
10. Chronic interstitial hepatitis, to be further differentiated into cirrhosis:
 (*a*) Of Lænnec,
 (*b*) Syphilitic,
 (*c*) Biliary or hypertrophic, with marked icterus of the French writers.

My report would far exceed the limits of necessary brevity were I to offer a detailed differentiation of the above summarized —nineteen possibilities. I will exclude class *A* entirely with the statement that the rational symptoms, together with the abdominal physical signs, easily allow us to pass to class *B*. Under this division (class *B*) for the same reason, I limit myself to a differentiation between *B* 9, malignant diseases, so called, and *B* 10, chronic interstitial hepatitis, with its three subdivisions—the two classes involving the difficulty in positive diagnosis in the case in question.

A tabular arrangement will, perhaps, most briefly best present the differential points.

B (9) Malignant Diseases, so called most commonly, Cancer.	B (10) Chronic Interstitial Hepatitis.	The patient's symptoms, referred to same tabulation, as far as possible.
(1) Hereditary tendencies—established. Often preceded by protracted grief or anxiety.	(1) Hereditary tendencies—none directly. Knowledge of cause important.	Hereditary tendencies—none. Causes, as summarized under "Ætiology," of importance.
(2) Age—a disease of middle and advanced life. Between 50–70 years in $^2/_3$ of cases (Walshe); of 472 cases 250 were over 40 years (Leichtenstern).	(2) Age—not so limited.	(2) Age—patient not over 35 years at time of commencement of trouble.
(3) Sex—exerts no influence. In 165 cases 85 were males, 80 females (Roberts.) As a secondary deposit more common in woman.	(3) Sex—more frequent in males ratio of 107:41.	(3) Sex—female.

B (9) Malignant Diseases, so called—most commonly, Cancer.	B (10) Chronic Interstitial Hepatitis.	The patient's symptoms, referred to same tabulation, as far as possible.
(4) Liver—enlarged, hard nodular, often umbilicated. Great and persistent pain and tenderness.	(4) Liver—enlarged, smooth, not nodular; no umbilication. Pain and tenderness less severe.	(4) Liver—enlarged; smooth, not nodular; no umbilication Pain and tenderness not so marked and not continuous.
(5) Icterus—absent in majority of cases (ratio of 91:52) (Frerichs) If once present, rarely disappears (Reynolds).	(5) Icterus—present in small proportion of cases and rarely great (Flint).	(5) Icterus—4½ years of varying intensity.
(6) Ascites—present in 30 out of 91 cases (Frerichs). Often sanguineous.	(6) Ascites—great distention, thin leg. No blood.	(6) Hydro-peritonæum—none.
(7) Pressure symptoms—depend on location of deposit.	(7) Pressure symptoms—usually marked.	(7) Pressure symptoms—absence of, below diaphragm.
(8) Dyspeptic symptoms (meteorismus, constipation).	(8) Gastro-intestinal catarrh more persistent.	(8) Gastro-intestinal symptoms—most persistent.
(9) Intestinal hæmorrhage—occasional	(9) Intestinal hæmorrhage—rare; hæmatemesis common; hæmoptysis, in later stages.	(9) Intestinal hæmorrhage—none; hæmoptysis—one attack.
(10) Cachexia, emaciation, anæmia; cold dry, harsh skin, pinched features, dejected, worn expression.	(10) Cachexia, emaciation, anæmia, old, sallow look; fawn colored, muddy, earthy skin.	(10) Cachexia, emaciation, anæmia, old look; slightly dry, icterode skin.
(11) Progress and duration—progressive feebleness; death within one year	(11) Progress and duration less rapid; liver usually passes through stages *(a)* hypertrophy, *(b)* atrophy.	(11) Progress and duration—less rapid; growth once attained, remaining stationary for years.
(12) Spleen—not enlarged.	(12) Spleen—enlarged—ratio 18:36 (Frerichs), 58:64 (Bamberger).	(12) Spleen—enlarged.
(13) Metastasis—common.	(13) Metastasis—never.	(13) Metastasis—none
(14) Frequency—Of 10,007 deaths from cancer, 6 per cent. only cancer of liver (Tauchon and Marc D'Espiul). In 6,019 autopsies, 74 cases of cancer—number referred to liver not stated (Prague Path Institute). Primary cancer of liver rare. In 91 cases, 22 only were primary (Frerichs).	(14) Frequency—In 3,200 autopsies, 31 cases cirrhosis (Berlin Path. Institute).	(14) Frequency.

A comparison of my patient's symptoms with the tabulation of the two (2) diseases leads undoubtedly to a diagnosis of cirrhosis. By further excluding specific cirrhosis, I am finally able to arrive at my ultimate diagnosis from the certain special symptoms by which I exclude the ordinary cirrhosis of Lænnec, briefly recapitulated as follows:

(*a*) The continuance of the hypertrophic condition of the liver, with no tendency to contraction, for at least $4^1/_2$ years.

(*b*) A continued jaundice during this same period.

(*c*) The absence of hydro-peritonæum.

(*d*) The enlarged spleen.

Diagnosis, therefore, is—

Hypertrophic hepatic cirrhosis with marked icterus, to which form of disease certain French writers—namely, P. Olivier, G. Hayem, J. M. Charcot and A. Gombault, V. Cornil, and especially Hanot in a thesis, entitled "Etude sur une forme de Cirrhose hypertrophique du Foie" (Paris, 1876),—were the first to call attention.

In glancing over the statement of symptoms, it will be noticed I have introduced a number of negative evidences. My reason for so doing is two-fold:

(1) We may often arrive at our conclusions by exclusion.

(2) No two cases present exactly the same set of symptoms. Thus, I find it stated that either amenorrhœa or menorrhagia, with hæmorrhoids are frequent concomitants of cirrhosis. My patient's catamenia are normal, differing only in duration (one to two days) from her previous menstrual history. She has no hæmorrhoids. The amenorrhœa in these cases is "conservative;" the menorrhagia and hæmorrhoids are due to pressure, congestion from hepatic obstruction. Many of the gastro-intestinal symptoms are likewise elucidated. The blood, obstructed in its passage through the liver, produces congestion and overdistention of the portal vein, the stomach becomes engorged with venous blood, hence from the poor circulation, from the unaërated blood comes poor local nutrition, hence disordered digestion, impaired absorption, and irritable stomach with its train of symptoms, blankety tongue, acidity, anorexia, pyrosis, nausea, and at times emesis, all of which have been present in the patient's case. The poor primary assimilation induces general malnutrition. Moreover, a diseased liver with the attendant loss of its glycogenic function, by accumulating waste products in the blood but adds to the morbid results.

My patient gives no history of hæmorrhage from the digestive organs, a common occurrence in ordinary cirrhosis. This is

explained by the ingenious hypothesis that while, in the usual form, the finest ramifications of the portal vein are first involved in the contraction of the new-formed connective tissue, thus producing greater engorgement and congestion of the portal vein, whence the hæmorrhage; in the cirrhosis of the French writers, the hepatic cells suffer the more.

The liver and lungs are complimentary organs. Upon the patient's lungs, therefore, is thrown an excess of work. "Overfuntional activity of a part predisposed to disease," hence the weary and congested lung, the accentuated pulmonary second sound and the other symptoms which my patient's history presents in this connection.

Pulse.—The slow pulse (as found in May, 1892) is due to the toxic elements in the hydræmic blood, bile salts and excrementitious matter, especially cholesterin and probably also urea. These act directly upon the cardiac ganglia. The sphygmographic tracings are rather unsatisfactory. As contrasted with the tracing of an average healthy man in middle life, the sphygmogram indicates chiefly the pulse of anæmia. The acceleration (96 per minute) being due to the fatigue of a visit to the Dispensary after a fast of nearly twenty-four hours. The pulse is small with weak and varying force of the percussion wave and consequent fluctuation in the mean blood-pressure. The somewhat blunted apex with little tendency to any marked oscillations in the line of descent indicate an undue rigidity of the arterial walls, associated in the present case also with increased arterial tension. The rhythm is regular, allowance being made for the imperfect action of the instrument. It will be noted that my patient's respiration and pulse are as 1:3, the usual ratio in such cases, according to Frerichs.

Blood. The insignificant absolute oligocythæmia in my patients's case is, upon first thought, inconsistent with our ideas of anæmia and certainly my patient is anæmic. But anæmia is not always the result simply of a diminution in the number of red blood-corpuscles. Two elements are to be considered, quantity and quality; thus the cells may be rich in quality; and few in number; or poor in quality and normal in number—in either case there is anæmia. Moreover the blood is a complex tissue and variations in its plasma may induce anæmia. Undoubtedly such changes are present in my patient's blood. "Affections of the liver especially influence the chemical composition of the blood plasma," writes one author, and yet the patient's achroiocythæmia is of itself almost sufficient to cause general malnutrition and an-

æmia, for the oxygen carrying power of her oxyhæmoglobin is reduced nearly ½—40 per cent.

Added to this, is the condition of hydræmic leucocytosis, which Vierordt states is present in all forms of anæmia. As an additional confirmation Hayem, in his treatise, "Du Sang," affirms that "La Cirrhose hipertrophique *sans* ictère n'a pas d'influence plus manifeste sur la constitution anatomique du sang. Il n'en est pas de même de la cirrhose hypertrophique *avec* ictère. Cette maladie peut determiner, en effet une aglobulie intense." This follows from the action of the bile in the blood to dissolve the red cells and to set free hæmoglobin. He adds, "Chez des malades (referring to cirrhosis hepatis) on trouve des altérations des globules rouges et une anémie parfois tres grande."

(*To be continued.*)

FUNCTIONAL DISEASES OF THE ALIMENTARY CANAL ACCOMPANYING CLIMATIC OR TEMPERATURE CHANGES—ÆTIOLOGY, PATHOLOGY, AND CLINICAL HISTORY.

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During the past ten years systematic investigations of bacteria have been in progress for the purpose of determining an accurate classification, and the correct ætiological factors concerned in the intestinal disorders of summer.

Although a large number of independent investigators have been employed in this particular branch of bacteriological work and the results of their labors show decided progress, not enough has yet been accomplished to warrant the statement that all of these disorders have their origin in any particular class of micro-organisms. Enough, however, has been done and the conclusions so far produced show sufficient points of agreement to warrant the statement that the work is being conducted in the right direction, and that it is only a question of time when the real cause of all intestinal complaints will be properly classified according to their bacterial origin. The influence of temperature and climate has not been neglected in these investigations, but has simply been looked upon from another standpoint. That is, heat and climate,

instead of being now considered the real cause, are regarded only as the means by which microörganisms can flourish and act as the real ætiological element. Were it not for the high temperature of summer, the usual intestinal summer disorders would not exist. Again, high temperature alone is not sufficient to cause the disorders now under consideration. Heat must be maintained at a certain mean temperature for a number of days and nights before any serious trouble can arise. Furthermore this heat must be able to exert its influence upon microörganisms contained either in the air, intestinal canal or food before it can become an ætiological factor. Our knowledge of specific intestinal microörganisms is as yet so incomplete that a classification of summer intestinal disorders can only be made from a study of the pathological conditions created, and from the location in the intestinal tract of the different varieties. These pathological conditions range from the simple congestion of the mucous surfaces from mechanical irritation to the more or less complete destruction of the epithelial, mucous and sub-mucous tissues. Classified according to location, there are four distinct varities, gastro-enteritis, enteritis, entero-colitis and colitis. With the exception of the first variety and that in its simpler form and in children, these conditions are all inflammatory in character. Gastro-enteritis or cholera morbus in adults in its ætiological factors is quite similar to the same condition in children, and is the result of some interference with digestion.

It is the only form of summer intestinal disorders which cannot now with reasonable certainty be said to be caused by the activity of some intestinal microörganism. When promptly relieved no pathological changes take place, and it is only when allowed to continue for several days that any loss of epithelium and mucous tissue occurs as a result of changing the simple conditions of congestion into an inflammatory one. As in children, gastro enteritis in adults is largely influenced by humidity and temperature changes, but to a much greater extent in adults than in children, for the reason that in the former food remains much longer in the stomach, but in the latter in whom, if the conditions become serious, the trouble is much more likely to have passed into the second division and become purely an enteritis. Simple nausea, vomiting, restlessness and signs of abdominal pain are about all the signs that can be said to constitute gastro-enteritis in children, while in adults the same disorder is accompanied by many of the signs of collapse, pallor, rapid pulse, blueness of the skin, suppression of urine, and thin watery discharges. When the latter symptoms present themselves in children a true enteritis is in progress.

That this is true is proven by the now well established position of the child's stomach in the abdomen and the very short period of time that food remains in that organ.

A child's stomach is now known to rest more or less in a perpendicular position, the pylorus being below and the cardiac opening above, with the upper third of the lesser curvature being parallel with the left border of the spinal column. It is poorly supplied with muscle fibres, contains few peptic glands, the lower portion of the greater curvature being a kind of pouch, and the whole acting almost entirely as a receptacle for food, which is within three quarters of an hour to an hour and a-half passed into the intestines where it is to be digested. Within one hour after eating a child's stomach is almost entirely empty. In children simply the vomiting of casein does not constitute a gastro-enteritis but is the result of over-feeding, uncleanliness and gastric fermentation. As the intestine in children is the principal seat of digestion, so is it the principal seat of distress in all serious disorders of summer. The point of greatest importance that can be attached to the stomach of children during the first few months of life is its capacity. While over-feeding is universally recognized as a very important ætiological factor sufficient attention is not usually paid to what really constitutes over-feeding, particularly in bottle-fed babies.

Over-feeding does not refer so much to the quality or consistency of the food given, as it does to the quantity, some writers stating that other things being equal even cow's milk only slightly diluted will be tolerated if given in proper quantities, and at regular, well-defined intervals. The gastric and intestinal secretions after a certain point is passed are no longer able to properly care for the casein, which is the principal cause of trouble. The following table taken from Holt gives the capacity of the child's stomach from one month old to that of the ninth month.

At birth 1.20 ozs., one month 2 oz., two months 3.37 ozs., three months 4.5 ozs., twelve months 9 ozs. At twelve months capacity being about twice that at three months. During first three months increasing 1 oz. a month. Increase during three to eight months 1-2 oz. per month. From eight to fourteen months increase is 1-3 oz. per month.

Another evil following as a natural consequence a disregard of the knowledge of capacity is that of stomach dilatation, which at first is only functional but may become chronic. The stomach walls to begin with being deficient in muscle fibres soon refuse to respond to the effects of increased food, and consequent gastric

fermentation and the result is the permanent enlargement so frequently seen in young children. The few peptic glands have less opportunity of allowing their secretions to act upon the food, and as a consequence what would otherwise be a normal quantity becomes relatively abnormal.

Other ætiological factors acting both in children and in adults are fatigue, sudden chilling of body, a mean high temperature for several days of 60° F., with humidity and microörganisms found in the earth, air, water and food.

Fatigue and humidity by diminishing all the powers of resistance place the body in a condition to be influenced by chilling, high temperature and bacteria. High temperature and bacteria are mutually dependent upon each other.

Those conditions in adults in which they perform a most important part are entero-colitis and colitis. By entero-colitis is meant that condition of the intestinal canal in which, from the presence of microörganisms and the production of poisonous ptomaïnes, there exist not only distressing local symptoms but also grave constitutional ones, approaching frequently those of collapse. This condition frequently begins as an enteritis, but rapidly extends until a portion of the ascending colon is involved. Pathologically there is found intense congestion of the mucous surfaces, destruction of the epithelium, mucous and sub-mucous tissues, infiltration of cells even to the muscular layers, enlargement of solitary and mesenteric glands, and the mucous surfaces bathed in a copious muco-purulent discharge. Ulceration may occur with loss of blood. Colitis or acute dysentery and inflammation of the large intestine is now believed to be caused by a specific bacillus.

Pathologically the mucous surface presents no distinct points of difference from enteritis, except that the stomach may be ulcerated. The mucous membrane of the large intestine is swollen ecchymosed, ulcerated and the closed follicles are hypertrophied as well as the mesenteric glands. Chautemesse and Widne have discovered a microörganism, which they describe as a bacillus with rounded ends and slightly swollen. It develops rapidly in all culture media, and under cultivation its transverse diameter increases. It has very little movement.

They are found between the tubular glands, in the submucous tissue and in the liver. From their entire absence in health and their presence in the stools and viscera of dysenteric patients they conclude that they are the specific cause of this disease. There is one form of enteritis due to a specific organism in which the nervous system is thought to act the most important pathological part.

It is membranous enteritis, and described by Cornie the result of an organism introduced with the food, the different symptoms presenting not being due to different pathological changes but to a difference in the nature of the organism. By symptoms he refers particularly to the nature and structure of the membrane itself, it ranging from a delicate, friable, unorganized substance, composed mostly of mucous to a thoroughly organized leathery mass, these symptoms being influenced through the nervous system by the intensity and amount of the poison introduced. Another disorder having its seat in the intestines, and prevalent at least periodically in our own climate, is Asiatic cholera. Ætiologically it is dependent upon the action of the comma bacillus under certain favorable conditions of heat and moisture.

It is frequently pathologically impossible to distinguish it from cholera morbus, and at the beginning of an attack the same is equally true clinically. Both may have clear, colorless, rice water discharges, but usually in cholera morbus there is some odor to them. In Asiatic cholera diarrhœa is an early symptom, and the dyspnœa, cyanosis and shrunken condition of the skin more marked while the discharges show no signs of becoming more solid, which is usually the case in cholera morbus. In cholera morbus the attack is usually sudden, frequently occuring in the night with marked and violent symptoms and the vomited matter for some time showing traces of bile coloring matter. Recovery is usually rapid lasting from a few hours to two or three days. In Asiatic cholera the constitutional symptoms are usually more marked and recovery, if at all, is not so rapid.

Broca has described a condition of the skin which he has found present in several cases of true Asiatic cholera, and which he thinks may assist in diagnosis. He speaks of it as an "erythema peculiar to cholera and due to infection, consisting of a fairly red papule with diffused borders, two to three mm. in diameter and slightly elevated. On thick epidermis these papules do not occur but red spots are seen. After twenty-four hours regular corymbs form resembling morbilli or beginning scarlatina. Miliary vesicles may surround the spots and desquamation follows."

In infants, the study of bacteria with reference to their ætiological importance has been pursued to that point at which some writers now declare them to be the principal cause of summer disorders.

Other writers, while not at present being willing to assign to them the first place in ætiological importance, admit that they constitute a very important part. Upon two points all are agreed: first,

that there are a certain number of physiological bacteria in the intestines, and second, that there are others which are pathological. Beginning with the new born infant who is entirely free from all bacteria they begin the study with the first infection, which usually occurs before any food has been taken. Baginsky and Escherich have both devoted much attention to a bacillus which the former claims produces a normal acetic acid change in food products, and the latter a lactic acid change. It has no effect upon starch or casein, and very little upon albumen. In an over-production of this acid fermentation the bacillus itself is destroyed.

This occurs when the food is given in too large quantities, and the practical point in connection with this bacillus is that under this condition it loses its power to stand on guard to prevent the entrance into the intestine of poisonous and pathological germs. This protection is not, however, very great, because it has been shown that nearly if not all forms of bacteria during digestion can pass unchanged through the stomach into the intestines. The acid of the gastric juice is the only one of the digestive secretions that has any destructive action upon bacteria, and this it cannot exercise during digestion, for the reason that the hydrochloric acid, which has a very strong attraction for milk, particularly cow's milk, is absorbed by it. It is never found free in the stomach during digestion. The first, therefore, of the ætiological factors in summer disorders, aside from the bacteria, is over-feeding. This may occur at any season of the year, and its continuance results in establishing a dyspeptic intestinal catarrh which renders that canal a very fertile location for poisonous germs during the heated summer months. The so-called gastric irritation of dentition produces a like condition and acts as one of the causes in rendering the intestines more susceptible during summer. Bacilli which become located in a particularly inflamed canal, the result of a long continued dyspeptic intestinal catarrh, flourish much more easily than in one not so affected. Second in importance are the bacteria and germs found principally in the mouth, and to some extent in the œsophagus. These alone are sufficient, when washed into the stomach along with the food, to infect the most carefully sterilized milk, and in it develop rapidly in the intestines. Third in importance are the bacteria contained in the milk itself. The extent to which these germs can act depends partly upon the number finding entrance, and partly upon the powers of resistance of the individual. A mean temperature for several days of 60° F. causes a very active multiplying among the germs contained in milk and water. Next in importance are the bacteria of the air, the result of putrefactive

changes and multiplying of poisonous germs deposited in the earth. Some of these have a direct action upon the health when absorbed through the respiratory organs. High temperature and humidity, principally by their effect upon bacteria and through their influence upon the nervous system, constitute the one great ætiological factor. Experiments made in crowded tenement districts show that the air and temperature of the first and second floors is more poisonous than that of the cellar or floors above. The temperature of the earth four feet below the surface when it reaches 60° F. is said by some observers to be the great cause of rapid bacterial development, and consequent intestinal infection.

The principal pathological changes occurring in the intestines have been mentioned with the exception of the diarrhœa. To this subject a great amount of attention has been given. The reaction of the entire intestinal canal of a healthy breast-fed infant is acid, but in disease this condition does not always continue, some portions of the intestinal canal being acid and others alkaline, and upon this oftentimes depends the character of the diarrhœal discharges It is now believed that the bacteria act in three ways: first, by causing undue fermentation, second by acting as a direct irritant upon the intestinal mucous surfaces, and third, by generating poisonous ptomaïnes which are readily absorbed. It is also known that certain bacteria have a specific action upon sugars, starches, etc., producing an acid fermentation, while others act specifically upon albuminoids, resulting in an alkaline fermentation. Any condition which renders the intestinal canal alkaline is pathological.

There is one variety of diarrhœa which is now thoroughly understood, and which at the same time is one of the more serious forms of it. This is the green diarrhœa, the reaction of which may be acid or neutral. It can be divided into two distinct varieties according to the cause producing it.

The first of these is that form which is dependent upon a change in the bile pigments. Bilirubin can in an alkaline medium be changed into biliverdin, and thus color the intestinal contents, the acid reaction of these stools bearing no relation to the green color, for a stool once green remains so, and is not changed by any of the organic intestinal acids.

Anything which tends to render the intestinal contents alkaline, even the long continued use of bicarbonate of soda, will by this means change the ordinarily yellow color to green.

The second variety of green diarrhœa is the one described by Lesage, and to the production of which he assigns the action of a

specific bacillus. This bacillus is of the liquefying variety, rapidly diffused in water and producing in it a green coloring matter. He describes it as small and of variable length and thickness and as it grows, shows a disposition to form long threads It secretes a green coloring matter of various shades, the color depending partly upon the age of the germ, but principally upon the amount of free oxygen—the more oxygen the deeper the color. He found that lactic acid had a specific action upon it, the bacillus being rapidly destroyed in its presence.

This specific action of the lactic acid and the distinct ætiological difference in the two varieties of the diarrhœa is shown clinically where the acid is employed. The acid has no effect whatever upon the color when due to bile pigments, but in the absence of these and acting almost as a means of differential diagnosis, it changes rapidly the color when due to this particular germ.

In conclusion the following deductions may be made concerning the three divisions of this paper:

First as to ætiology:

1. Any cause at any time of year which creates in the intestines a condition of catarrh.
2. Fatigue or sudden chilling of the body.
3. High temperature and humidity.
4. Microörganisms contained in air, water or food.
5. Any intestinal irritation or absorption of poisonous ptomaïnes.
6. Infection externally from decomposition of stools.
7. Active specific bacilli.
8. Age and individual powers of resistance.

Pathology:

1. Simple congestion of intestinal mucous surfaces.
2. Inflammation of stomach and intestinal mucous surfaces with loss of epithelium, and in severe cases loss of mucous and sub-mucous tissue with intestinal infiltration.
3. Ulceration with loss of substance.
4. Infiltration of solitary and mesenteric glands.
5. Formation of membranous coatings to intestine.
6. Creation of pathological intestinal contents.
7. Grave constitutional symptoms with no marked pathological intestinal changes.

Clinical history:

1. Simple gastric or intestinal dyspepsia with nausea and vomiting with no constitutional symptoms.
2. Enteritis, gastro-enteritis entero colitis and colitis with

marked local and grave constitutional symptoms, approaching in the latter case those of collapse.

3. Sudden death within a few hours of attack, with no intestinal signs of pathological changes.

4. Diarrhœas in all degrees of intensity, frequency, color, consistency and composition.

4. Vomiting, consisting either of mucous, undigested food or other stomach or intestinal materials, bile, blood or serum mixed with intestinal contents.

5. Specific action of certain pathological germs upon starches and sugars resulting in an acid fermentation, and lastly a similar action of other germs upon albuminoids, resulting in an alkaline fermentation.

ATRESIA OF THE VAGINA WITH RETENTION OF THE MENSTRUAL FLUID.

BY ALEX. J. C. SKENE, M.D.,
Professor of Gynæcology, Long Island College Hospital.

This patient was brought to me by my friend Dr. Bornier, who informs me that she is nineteen years of age, of foreign birth, large and well developed, and has enjoyed excellent health until recently, but never menstruated. She came to consult him because of an increasing distress in the pelvic region, manifested by a feeling of fulness and pelvic tenesmus, with some disturbance of the function of the rectum and bladder. On examination the doctor found an obstruction in the lower portion of the vagina, about three quarters of an inch above the hymen, and beyond this, a fluctuating mass which he rightly diagnosticated as a hæmatoma. On examination I was able to confirm the doctor's diagnosis. I found the closure in the vagina to be more of a diaphragm than a stricture. The vagina below this closed portion was normal and ample, and owing to the distention above it gave this diaphragmatic appearance to the parts. The fundus uteri could be felt above the superior strait, but the body of the uterus did not appear to be distended. Fig. 1 will show the condition of things as here described. I operated upon it in my usual method of first making a small opening in the centre of this diaphragm in the vagina with the galvano-cautery, allowing the fluid to drain off very slowly.

When the vagina seemed to be emptied and the flow had all but ceased, the catheter was passed through the opening and the parts thoroughly washed out twice a day with a 2½ per cent. solution of carbolic acid. When all traces of menstrual fluid had been removed, and the water used in the douche returned perfectly clear, the patient's condition being excellent, I resolved to enlarge the opening in this closed portion of the vagina, which I did by making two incisions from the central opening laterally. I then brought the mucous membrane over the divided surfaces and sutured them so as to make a complete closure. This left an ample vagina. Having accomplished this, on making a digital examination, I found

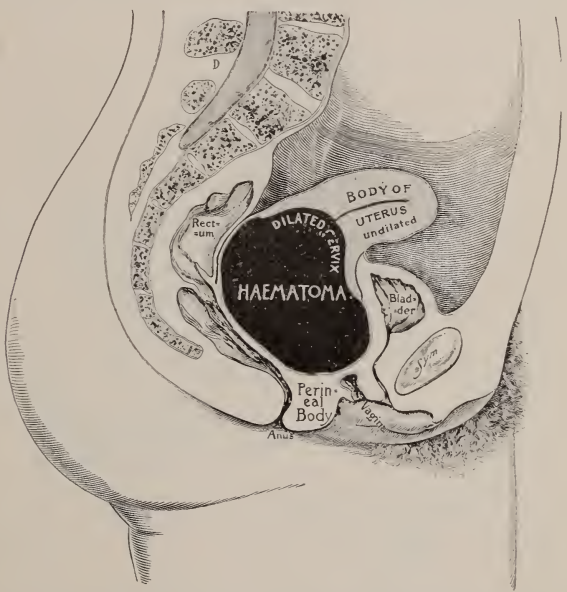


Fig. 1. Hæmatoma from vaginal atresia, with dilatation of the cervix.

what appeared to the touch to be a partial inversion of the uterus. So positive were the signs that I felt confident such was the case, knowing that dilatation of the cervix and possibly of the lower portion of the body of the uterus produced the very conditions which might give rise to a partial inversion. Fig. 2 will show the condition of things, but when I made a speculum examination to confirm or correct my suspicions about the inversion, I found the canal of the uterus in the central portion above the cervix, which had appeared to be the inverted fundus to the touch. (Fig. 3.) This corrected my suspicions as to inversion, and at the same time demonstrated to my satisfaction the way in which

dilatation takes place from the accumulation of retained menstrual fluid. It is clearly evident that the vagina becomes first distended to its utmost, that next the cervix under pressure becomes completely dilated, and finally the body of the uterus; and that last of all, if the case is allowed to go on long, the uterine ends of the Fallopian tubes become distended also.

If this is the correct account of the way in which distention takes place, then I think it will fully explain one of the sources of danger in this affection. It is well known that in the past a large percentage of such cases have terminated fatally even after operation. Knowing this, I have given considerable attention to the subject in order to detect, if possible, the causes of danger and the

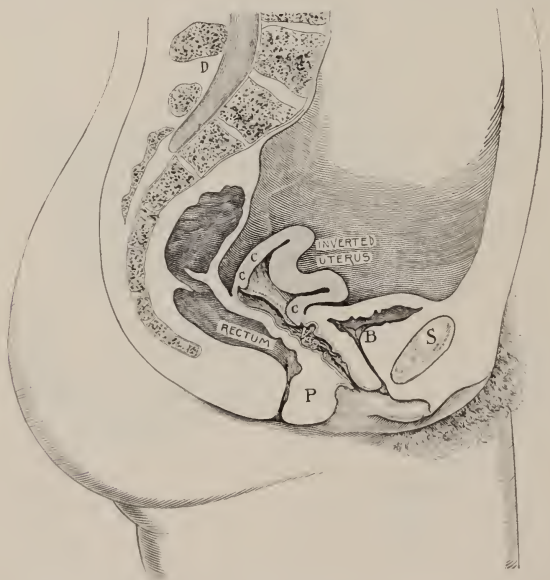


Fig. 2. Apparent inversion of the uterus after evacuating the blood.

best means by which they can be prevented. In brief it may be stated that cases that terminate fatally do so either because of septicæmia or septic metritis, salpingitis or peritonitis.

The genesis of the septic inflammation is generally, in my opinion, due to the rapid decomposition of the fluid when it is exposed to the air during and after evacuation. There is some septic absorption while this fluid is flowing over the wound made to permit its escape, and from this point the septic inflammation extends to the whole mucous membrane of the body of the uterus. In case there is any dilatation and accumulation of the fluid, be it ever so little, in the Fallopian tubes, the inflammation extends to

these canals setting up a salpingitis, which in its turn engenders a peritonitis.

Now in regard to the treatment which is best adapted to the safety of the patient, to guard against the dangers which have been mentioned and the genesis of them, I may say that I entirely rely upon the slow method of evacuation through a very small puncture in the imperforate hymen, or through the diaphragm in the vagina as in the case now under consideration. I endeavor to guard against absorption of septic material by the small wound or puncture made in the obstructing part by using the cautery to make the puncture, and I believe I succeed in this. This should not

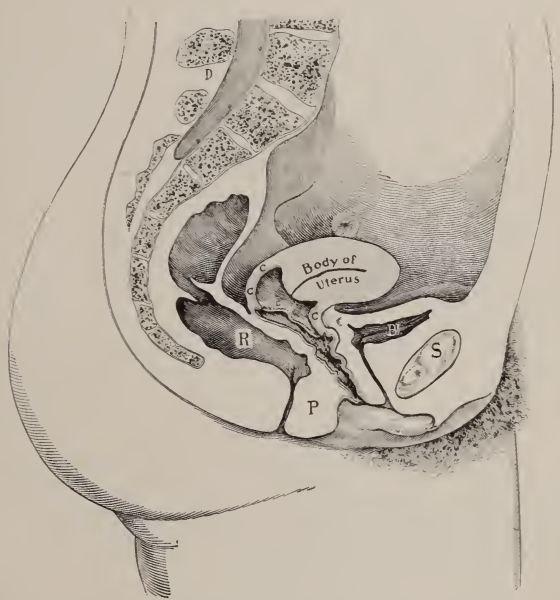


Fig. 3. Condition revealed by further examination. The vagina and cervix have been distended, and are here shown collapsing, while the uterine body is undilated.

be more than an eighth or a quarter of an inch in diameter, and being a cauterized wound the lymphatics and vessels are closely sealed so that absorption is impossible until the slough has separated, and by that time all the fluid can be thoroughly evacuated, and the canal of the vagina and uterus thoroughly washed out and disinfected. The cautery then guards against the first, the possible inlet to sepsis, and the very slow evacuation permits the uterus and the vagina to contract to some extent at least, so that there is a smaller surface for absorption, and hence less danger from septicæmia. A thorough washing out also prevents, or at any rate

lessens the activity of the inflammation of the vagina and uterus, and so controls the inflammation wholly or to a very great extent. By the same means the Fallopian tubes, if they are at all distended, have an opportunity to expel their contents and to contract readily towards the uterus, and in this way may be protected from inflammation.

In all cases that I have treated in this manner I have been entirely successful, and, more than that, the patients have shown no evidence of any well marked inflammation or septicæmia. In my experience with the other method of treatment—that is, a free incision at the point of obstruction, and rapid evacuation done with antiseptic precautions and a thorough washing out of the uterus and vagina with aseptic solutions—I have had at least one fatal case. One other on which I operated, making the puncture, I left in the care of the attending physician, also proved fatal, and I believe it was largely due to the fact that although I intended to adopt the slow evacuation method, the doctor and patient both became somewhat weary of the slow discharge; I believe the opening was enlarged and some pressure made to evacuate the fluid, and that case proved fatal. I may say, however, that I have considerable confidence in the method which I have described. It has been equally efficacious in cases of longer standing in which the uterus was fully distended, and where, I presume, the uterine ends of the tubes were also distended to some extent.

TREPHINING FOR EPILEPSY—THE RESULT AS SEEN BY OBSERVING THE CASES FOR A LENGTH OF TIME SUBSEQUENT TO THE OPERATION.

BY C. F. BARBER, M.D.,

Neurologist to the Kings County Hospital.

Read before the Brooklyn Neurological Society, April 12, '93.

At certain periods of our medical career we are encouraged by a few enthusiasts who resort to extreme measures for the cure of disease.

These periods seem to be spasmodic, as we see them cropping up now and again and gradually declining until a quiescent stage is reached, from which they are only aroused after a lapse of time. So to my mind is the operation of trephining for epilepsy; in oblivion for a number of years, then suddenly brought strongly forth,

to once more be tried and then to rest quietly on its oars for another period.

All the best authorities state, and positively, that trephining for epilepsy should not be attempted in any case except those due to injury or of the true Jacksonian type. Two of my cases are typical examples of the types referred to; the third, while I do not claim it to be a true Jacksonian is not so far from that form of epilepsy that it would take a very vivid imagination to place it among the Jacksonians.

From what I have seen of the results of trephining for epilepsy, I am not sufficiently encouraged to urge the operation save in most desperate cases where medication is without any results. I do not consider a fair inference because my cases have all resulted so discouragingly that all others will do the same, but when we find a similar experience among the patients of our brother practitioners the result in more striking.

Agnew, of Phila., in the Phila. Med. Times, 1887, p. 578, reports some favorable results; also West, in the Med.-Chir. Trans., 1880, and Lees and Bellamy in Clin. Soc. Trans., 1881. All of these reports were published about the same time, when the procedure was in high repute; perchance, were the operators to review the results at this time they would not be as enthusiastic as to the ultimate results of trephining.

The following cases are typical examples of many which are claimed as cures :

Case I.—Henry K., aged 32 years, mule driver by occupation. While working in a coal mine in 1877 (sixteen years ago) was kicked by a mule (the animal had shoes on and the toe of the shoe struck him), producing a depressed fracture of the right frontal bone, just over the right eye. He was rendered unconscious by the blow. Those who cared for him at the time of the accident told him he had a convulsion while in an unconscious condition. Immediately following the accident an operation was performed, resulting in the removal of several pieces of bone. Following the operation the patient experienced an epileptic seizure about once a month; these increased in frequency until the interval between the attacks was about one week. All attacks were followed by a long period of sleep. About eight years after the accident he was trephined by the elder Hammond, in New York City. Dr. Hammond informed the patient that a spicule of bone was probing the brain and that was the cause of his epilepsy. There was no immediate improvement, but gradually the attacks abated until he had but one in three weeks. From that time until the present the interval be-

tween attacks has never been longer than three weeks but ofttimes shorter. He is the subject of both grand and petit mal. Other than the epileptic condition his health is excellent. There is no family history of any nervous trouble. His attacks occur mostly at night. At present there seems to be either the inner table of the frontal bone or a very firm ligamentous band at the seat of trephining.

Case II.—Mr. G., a clerk by occupation, is 33 years of age and gives a good family history. The patient has always enjoyed good health, never having had any of the diseases of childhood. First fit occurred at the age of seventeen while the patient was in bed. The attacks followed at a rate of one in three months for a time but gradually increased in frequency; becoming so severe, as to numbers, that the patient was willing to submit to any procedure that would hold out even a ray of hope. Accordingly, while in Philadelphia, he submitted to the operation of trephining. This was undertaken by the advice of Dr. Lloyd The operation was performed by Dr. Deaver at the Philadelphia Hospital. Five years have elapsed since the operation was performed. As the aura always commenced in the left arm the opening in the skull was done over the centre governing that member. The operation was a generous one, as a space now exists two inches by one and three-quarters. The patient tells me that immediately following the operation his entire body was paralyzed and that he was in an unconscious condition for three weeks following the surgical procedure. Upon regaining his senses he found himself unable to move his extremities. Gradually he noticed sensation and motion returning in his lower limbs and right upper. The left arm and hand have never regained their normal movements, in fact the whole member is more or less atrophied and in a state of uselessness. The fingers are contracted and the skin of the hand and fingers has that glossy appearance which is quite characteristic of trophic changes where paralysis has existed for a longer or shorter time. To my mind the cause of the paralysis was: 1st. The shock of the operation. 2d. The removal of the cerebral matter at the time of operation.

Immediately preceding the operation the patient had from fifteen to twenty-five convulsive seizures in twenty-four hours. Subsequent to the operation he was free from attacks for a period of seven months. At the expiration of that interval he experienced one seizure at night. Thirteen months passed without a fit occurring during the daytime. From the recurrence of the day fit he has had

from eight to ten every twenty-four hours. The convulsions, one of which I have seen him in, are not of the grand mal type. The aura is observed in the left arm. Following quickly upon this manifestation are slight spasmodic movements of head, then the body and right arm are convulsed, the face becomes livid and the tendency is to turn to the right. He does not lose consciousness, being able to tell all that has taken place during his attack. He is a fellow of good habits and disposition, and enjoys excellent health. I neglected to state that the left side of the patient's face is paralyzed, as well as the arm of the same side.

Case III.—Etta W., age 14 years, subject to epilepsy since childhood. Father a dissipated man, so much so that his family were obliged to leave him. This young lady was an inmate of the Hospital for Nervous and Mental Diseases when that institution was in existence. Her attacks were exceedingly frequent, having from one to twenty during the twenty-four hours. Intervals of one week, and on rare occasions three weeks, have elapsed when no fit would occur. While under my observation I never knew her to pass a day without having several. The aura is this case always commenced in the left arm. The seizures were violent, occurring with equal frequency night and day.

An operation was proposed and meeting with favor by those interested, was performed November 3, 1887, by the late Dr. Frank Rockwell. The trephining was done over the arm centre on the right side. Several buttons of bone were removed, the encephalon exposed, but nothing abnormal was found. The brain was punctured in several places with the hope of finding something which would account for the trouble but to no avail. The dura and membranes were carefully replaced and all but two buttons of bone were restored to their positions. The wound healed badly taking several weeks before it was finally closed. The patient was free from a convulsive attack about one week. They then became as frequent and as severe as ever. At present writing she is in as marked an epileptic condition as ever in her life. The only relief she has ever found is while taking large quanties of the bromides.

I have eight other cases to add to this report, furnished me by Dr. Mabon, of the State Asylum at Utica, the results of which are far from encouraging. They are more or less similar to the cases here reported and, therefore, I shall not take up the time by reading them.

Dr. Thomas Wells also contributes to the list by handing me

the report of two cases operated upon by himself while connected with the Asylum for the Criminal Insane.

Case I.—James Casey, alias Charles McLoughlin, aged 25 years, single, admitted to State Asylum for Insane Criminals, July 11, 1884, from Sing Sing prison, where he was serving a sentence for sodomy seven and a half years. Prison physician's certificate states scarcely anything as to the patient's condition. The following history was obtained from the patient. Says he fell down stairs when he was six years old, striking on back of his head, injuring it severely. At the age of sixteen he began to have epileptic fits, which have continued at intervals ever since. He has been in New York City Insane Asylum, on Ward's Island, three times; the first and second for about two years each and the third for three years Has been intemperate and was on a debauch when arrested for the crime for which he is now imprisoned. There is a depression about half an inch in diameter in the post. sup. corner of the right parietal bone. (Aug. 24, 1885.) Since his admission he has had nocturnal fits at varying intervals, sometimes a couple of weeks and again only one day intervening between them. He often bites his tongue severely and is always cross, grouty and irritable after emerging from the convulsion and once in a while preceding the attack. He has had several maniacal outbursts, at which times he was very desperate and became frantic with passion, requiring considerable force to control and keep him from injuring others. He complains of severe occipital headache nearly all the time, which is relieved to some extent by large doses of pot. bromide. Dr. Stephen Smith agreed with Dr. McDonald that it would be justifiable and proper to trephine and remove the depressed bone with a view to remove the cause of the epilepsy. He was trephined over the depression; an opening was made about one inch in diameter. Up to September 15, 1885, about one month after the operation he had no return of the fits. It will be readily seen that in this case no conclusions can be fairly drawn as the time for observing the patient after operation was so very brief.

Dr. Wells' second case is one of insanity with epilepsy and as I do not care to bring the subject of insanity into discussion in this paper I will not go into the history of the case, but simply state that the patient was operated upon December 16, '85, and had no return of the convulsive attacks so long as he was under observation (until Jan. 18, '86). The same criticism holds good in this case as the one preceding.

It is not uncommon for epileptics to go a number of weeks after being operated upon without a return of a paroxysm.

In a foot-note made by Dr. C. F. McDonald, the two cases just reported have remained free from a seizure up to August 1, '86. I consider that length of time too short to draw any definite conclusions from.

In bringing this report to a close I feel that a few conclusions may be drawn from the foregoing facts :

First—I believe the results obtained where no tumor, thickening of cerebral coverings, cicatrices or cysts are found or depressed bone removed are due simply to the lessening of pressure upon the brain.

As the attacks have returned in all the cases which have come under my observation, I firmly believe the cause for the failures is that the brain rapidly loses the effect of the lessened pressure and is once again in the same condition as before the operation.

Second—In many cases where the results are contrary to all reasoning, I consider the failures due to the too much manipulation by the operator, disturbing or irritating the cerebral matter.

Third—Where the cause of the epilepsy is due to an injury the trephining should be done as soon as the diagnosis of epilepsy is made.

Fourth—One fact which is peculiarly striking in the cases reported, is that they were all operated upon at or about the same time—when trephining for epilepsy was the fad.

Whenever an epileptic gives a history of a neurotic inheritance, I do not think trephining is to be considered of any avail, even though the exciting cause be a traumatism.

A CASE OF EXSECTION IN VERTEBRAL FRACTURE.

BY DAVID MYERLE, M.D.

Read before the Brooklyn Surgical Society.

The following history will serve to suggest a theme for discussion, namely, the wisdom of exploratory incision in cases of vertebral fracture. I find the recorded history rather meagre in detail. The patient, a male, age 26, U. S., by occupation a rigger, fell from a roof December 15, 1891, and was taken at once to the Eastern District Hospital with paralysis of sensation and motion involving all the extremities, and of the intercostal and abdominal muscles. Consultation was called to which the visiting and con-

sulting staff responded. On further inspection by digital examination per orem a distinct promontory could be detected and a diagnosis made of dislocated cervical vertebra. Assuming that the issue would probably be fatal unless pressure could be relieved, it was determined to expose the site of injury by incision; median vertical division of the tissues down to the laminæ and transverse section of the aponeurotic structures revealed, in addition to dislocation of the fifth cervical vertebra, a comminuted fracture of the spinous process and lamina on the right side of the fourth; the loose fragments were removed and the rongeur applied in rounding remaining p rtion; an effort was then made to reduce the dislocated vertebra, with very little, if any, progress, owing in part to the deep sulcus of tissue in which it was imbedded and that the use of great force was clearly contra-indicated in the presence of the fracture below and the danger of inflicting further injury to the spinal cord. The wound was therefore treated antiseptically with provision for drainage. The further history simply adds another to the list of fatality resulting from cervical fracture—death ensued on the sixth day.

While it may be admitted that an injury sufficiently violent to cause fracture would in all probability be accompanied by compression, contusion or laceration of the cord, evidenced in shock and suspension of sensory and motor function, conditions far removed ofttimes from means of relief, yet as we may have this interference of function in the presence of one or all of these conditions, and that definite diagnosis as to whether one or more of the factors are active, is often left for settlement post-mortem, is found the reason for urging a definite procedure, for the purpose of determining the extent of injury and the possibilities of relief. Incision of the overlying tissues can but in slight degree augment shock and may reveal conditions demanding interference which could not otherwise have been known or relieved.

It the case presented, exsection did not abate the symptoms in appreciable degree. Cervical fractures are regarded as uniformly fatal and the question may be raised, why then was further injury inflicted? In reply, it may be stated that the main objective symptom was that of dislocation, evidenced by examination through the mouth, and being rarely unaccompanied by fracture the procedure was undertaken in the expectation of finding this complication and with the direct intention of removing compression incident thereto, so that notwithstanding the discouraging mortality of spinal injury, to elevate depressed and remove detached fragments of bone is our plain duty. It would be unwise to take the position that some day,

even in cervical injuries, the mortality may not be lessened through the medium of exploratory incision.

An eminent authority states that trephining of the spine for injury is an operation of very slight danger, intended to meet an almost hopeless condition and the chance of its doing any good, although very slight, is sufficient to render it a correct practice, and records six cases with four partial recoveries.

In the American Journal of Med. Sciences, April, '92, is recorded a case of fracture and dislocation, between the tenth and eleventh dorsal vertebræ. Five hours after the accident the spinal cord was opened, a large extra-thecal clot washed away and the vertebræ reduced and held in position by a strong silk ligature passed through the adjacent spinous processes. The paralysis and the hyperæsthesia previously present entirely disappeared.

There appears to be unanimity of opinion favoring operation in injuries below the level of the first lumbar vertebra, in the region of of the cauda equina; the reparative power of these nerves invites interference with the expectation of recovery on removal of pressure. The gravity in vertebral traumatism is greater the higher the injury. To adduce statistics and theorize that because a man has cervical fracture he must die, may be warranted on the basis of conservatism, but I would say, in proportion as the welfare of the individual is jeopardized is the duty of ascertaining the exact extent of trauma forced upon us.

PAN-AMERICAN MEDICAL CONGRESS.

The meeting of the Congress was held at Washington, D. C., September 5–8, and is pronounced a success by all who were privileged to attend. The officers are to be heartily congratulated, and the profession owes a debt of gratitude to them for the able manner in which they performed their duties. Especially is this true of the painstaking and efficient Secretary-General, Dr. Charles A. L. Reed, of Cincinnati.

DR. EDWIN N. COLT.

The death of Dr. Colt, of Brooklyn, occurred September 16th, at the age of eighty-two years. He had practised in Brooklyn over sixty years, having received his diploma at the Berkshire Medical School in 1832.

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EDITORIAL.

ARMY MEDICAL SCHOOL.

Through the influence and by the suggestion of Surgeon-General Sternberg, an Army Medical School has been established in the city of Washington for the purpose of instructing approved candidates for admission to the Medical Corps of the Army in their duties as medical officers.

The course of instruction will be for four months, and will be given annually at the Army Medical Museum, in Washington City, commencing the first day of November.

Four professors will be selected from among the senior medical officers of the Army stationed in or near the city of Washington, and as many associate professors as may be required to give practical laboratory instruction in the methods of sanitary analyses, microscopical technique, clinical microscopy, bacteriology, urine analysis, etc.

The faculty of the Army Medical School will consist of—

1. A President of the Faculty, who shall be responsible for the discipline of the school, and who will deliver a course of lectures upon the duties of medical officers in war and peace (including

property responsibility, examination of recruits, certificates of disability, reports, rights and privileges, customs of service, etc.).

2. A Professor of Military Surgery (including the care and transportation of wounded).

3. A Professor of Military Hygiene (including practical instruction in the examination of air, water, food, and clothing from a sanitary point of view).

4. A Professor of Clinical and Sanitary Microscopy (including bacteriology and urinology).

DIPHTHERIA AND THE NEW YORK CITY BOARD OF HEALTH.

The New York City Board of Health offers to make diagnoses for physicians in all cases of suspected diphtheria, and has issued a circular describing the method of preparing the culture tubes for transmission to the health office.

OBITUARY.

EDWARD PAYSON THWING, M.D.

The death of Dr. Thwing from typhoid fever was announced in June as having occurred at Canton, China, but it was for various reasons discredited. Later advices have, however, confirmed the report, and the date is given as May 9th. Dr. Thwing was graduated from Harvard in 1855, from Andover Seminary in 1858, and received his degree in medicine at Long Island College Hospital, and went to China to establish a hospital for the poor insane Chinese. His burial took place in the Missionary Cemetery, outside the east gate of Canton.

PROCEEDINGS OF SOCIETIES.

THE SOCIETY OF THE ALUMNI OF CHARITY HOSPITAL.

Stated meeting, April 5, 1893.

Walter Lester Carr, M.D., president, in the chair.

CEREBRAL HÆMORRHAGE.

Dr. William L. Stowell read a paper on this subject and reported several cases. He said that cerebral hæmorrhage may occur at any age, but in infants and young children, the lesions are usually

cortical or meningeal, while in adults they are more commonly situated in the central ganglia. Localization of the lesion is of paramount importance both as regards prognosis and treatment. Aphasia and paralysis are common symptoms, and may be caused by several different lesions. In the first of the eight cases reported in the paper, the patient, a woman, fifty-six years of age, had an attack of aphasia without paralysis, two years before her death, and a year later, a paralysis of the entire right side which was not associated with aphasia or with any failure of the intellect. About nine months after this, she complained of headache and vertigo, and gradually became stupid, and there was complete paralysis of the left upper and lower extremities. The aphasia occurring two years before showed that the lesion must have been nearer the surface, but it could not have been extensive, for there was then no paralysis. This transitory aphasia was probably due to the existence of a miliary aneurism. Stooping, straining and mental excitement are the chief causes of cerebral hæmorrhage; the "apoplectic neck" is a myth, and the term apoplexy is indefinite and unscientific.

The most frequent seat of hæmorrhage is in the corpus striatum or between it and the internal capsule, and if the hæmorrhage be small, recovery may occur. If, however, the injury be very great, sclerosis occurs, and the damage is permanent. When the hæmorrhage destroys part of the optic thalamus, both sensation and motion are abolished. Cortical injury and destruction of the pons are the least frequent. The greater the hæmorrhage, the less the chance of recovery. The early abatement of the stupor and paralysis is a favorable sign. Where the heart action is weak and the arteries soft, stimulants may be cautiously employed, but in plethoric patients, cupping to the neck and shoulders, and leeches to the mastoid processes are more appropriate. The application of an ice-cap lessens the tendency to inflammation around the seat of the hæmorrhage. The after-treatment consists in a careful attention to hygiene and the use of electricity.

DISCUSSION.

Dr. Ralph Waldo asked if slight injuries, such as falls and concussions, were not direct causes of cerebral hæmorrhage.

Dr. Rupp called attention to the fact that where the hæmorrhage is small, and the loss of consciousness is not immediate, the temperature is not nearly so high as it is in the graver cases where the hæmorrhage is more extensive.

The President recalled a case of cerebral hæmorrhage due to aneurism, which he had seen in consultation with Dr. Hoyt. The

patient was a man, twenty-eight years of age, who eight years before, had fallen from a height, striking on the buttocks. There were no serious symptoms at the time. When first seen by the speaker there were tonic convulsions, occipital headache, tremulousness of the tongue, slight photophobia, and some drawing of the face to one side; sensation was diminished; urination and defecation were normal. Two days later, the pulse was 54 and full, respiration 19, pupils contracted and sluggish and speech slow. Pain in the cervical region was the principal symptom There was no history of syphilis and no scars, but it was afterwards learned that he had had the disease. He died in about one week, and the autopsy showed great thickening of the skull and dura mater, and at the junction of the medulla and pons there was a hæmorrhage from an aneurism, three-eighths of an inch in diameter. There was no laceration of the brain tissue. In another case, a woman, twenty-two years of age, was suddenly seized with convulsions and vomiting, and died in about eight hours. The post-mortem examination showed the blood-vessels unusually small, and a rupture of one of these small vessels had caused death. He thought in young persons cerebral hæmorrhage might be due to want of development of the blood-vessels without any perceptible change in their coats.

Dr. Stowell, in closing, said that the object of his paper was to call special attention to the importance of locating the lesion as nearly as possible. There were many causes of cerebral hæmorrhage, which for the sake of brevity he had not mentioned in the paper. Regarding the point raised about the temperature, he said that none of his cases had had a temperature above 102°, and in most of them it was considerably lower. Elevation of temperature was not a common symptom, except towards the termination of fatal cases.

FRACTURE OF THE SECOND LUMBAR VERTEBRA.

Dr. R. C. Newton reported a case of this kind. The patient received an injury by being caught between a stable door and a high wagon seat. When first seen by the speaker on the following day he had motor and sensory paralysis of both lower extremities, the temperature was 101°, and the bladder was full of urine. No bruises or marks could be found. On the fourteenth day, there was still retention of urine, and severe pain, chiefly in the abdomen; an examination showed some bulging in the lumbar region. He was suspended and a plaster jacket applied. He nearly fainted twice during the suspension. The patient's condition continued to grow worse, so an incision was made down to the laminæ of the

second and third lumbar vertebræ, when it was found that there was a fracture of the second lumbar vertebra. The displaced portion could not be replaced, and further examination showed the cord to be torn and of a purplish color. The patient, showing signs of collapse, the wound was hurriedly closed. On the second day there was no change in the symptoms. He died on the fifth day after the operation, and twenty-one days after the receipt of the injury. An examination of the wound showed the healing process to be progressing very satisfactorily. An autopsy was not allowed.

DISCUSSION.

Dr. Waldo said that he had recently removed a woman's coccyx for a coccygodynia of five months standing, the result of a fracture. The operation was attended with profuse hæmorrhage, as in all operations about the spinal column, but it was arrested by plugging the wound full of sponges.

Dr. Stowell said that his experience in these cases was limited to one in which he assisted in the reduction of a dislocation of the sixth cervical vertebra. The patient recovered. There were no special symptoms with reference to the body temperature.

GONORRHŒAL RHEUMATISM.

Dr. Ramon Guiteras read a paper with this title. He said that this disease was first recognized as a complication of gonorrhœa more than a hundred years ago, and was then supposed to prove a syphilitic character of gonorrhœa. Many theories had been advanced to explain its ætiology, thus: Some thought it was due to the direct absorbtion of gonorrhœal pus, others that the irritation in the urethra gave rise to the rheumatism, others again consider that the depression produced by the gonorrhœa favored the development of rheumatism, while some even advanced the theory that gonorrhœa was a systemic disease and rheumatism only a remote effect of it. There can be no doubt that it is the direct result of gonorrhœa, for diplococci have been found in the joints, both by puncture and by post-mortem examination. The time of its development bears no constant relation to the stage of the gonorrhœa; it may appear within a few days, or according to some, it may be observed anytime within three months. It is generally mono-articular, and in about eighty per cent. of the cases, the knee is the joint involved. The disease begins with tenderness, œdema and redness, with some fever and a variable amount of pain. The subsequent symptoms depend upon whether it goes on to the formation of suppurative arthritis or a serous synovitis. Its

duration varies from a few days to several months. The polyarticular variety resembles articular rheumatism, but it does not yield to anti-rheumatics. The relapses follow those of the gonorrhœa. In the peri-articular form, the tissues over the affected joints are very œdematous, the fever is quite high, and the disease generally terminates in complete anchylosis. A synovial bursitis begins with chilliness, moderate fever and pain, and the inflammatory process soon involves the tendons.

In the acute stage, the best method of treatment is by the administration of oil of gaultheria in doses of five to twenty drops. Turkish and Russian baths are also good, and ichthyol ointment as a local application acts like a charm. Stretching strictures aggravates the trouble, but cutting them does good and often causes the rheumatic manifestations to disappear. Cold and hot applications are good in the acute stage. Later on, electricity is of value, and where anchylosis is present galvanism, next to massage, is the best method of favoring absorption.

DISCUSSION.

Dr. Stowell thought that these patients always had a rheumatic history, and that the treatment should be salicylate of soda and iodide of potassium.

Dr. Waldo doubted the propriety of calling this disease rheumatism at all.

Dr. Robert W. Taylor said it was the best name that would cover all the symptoms. He thought that the inflammation of the joints was probably set up by the same microörganisms which caused the original trouble. Recent experiments go to prove that only mucous affections are caused by gonococci and that the microorganisms found in gonorrhœal affections of the tubes, and in gonorrhœal peritonitis are not gonococci, as the latter never penetrate deeper than the epithelium. Some contend that there is no gonorrhœal affection of the joints until the posterior urethra is affected, and he wished to emphasize the fact that he had seen cases of gonorrhœal rheumatism when the discharge came from the bulb of the urethra. He called attention to the occurence of an effusion into the fasciæ, especially into the palmar and plantar fasciæ, which occurs in some chronic cases. This was first pointed out by Bruce Clark, who stated that a condition of flat-foot was often caused by it. Regarding the treatment, he said that some of those present might remember when he first introduced into the hospital the treatment of this condition by oil of gaultheria, a method which often gives good results, but is not uniformly suc-

cessful. A long and bitter experience had taught him that when these cases of gonorrhœal rheumatism give a rheumatic history, they must be kept flat on their backs. This is most important as a preventive of anchylosis. He agreed with the author as to the beneficial action of ichthyol. In the poly-articular variety, he was accustomed to prescribe mercurial baths.

Dr. Guiteras, in closing the discussion, said that when he spoke of massage and the Swedish movement, he did not refer to cases of suppurative synovitis. Massage tends to promote absorption, and the Swedish movement to prevent anchylosis. In cases where there was effusion into the palmar and plantar fasciæ, he had obtained the best results from massage, pressure and the internal administration of oil of gaultheria.

Walter Lester Carr, M.D., President,
6 East 58th Street.

Alexander Lyle, M.D., Secretary,
117 East 81st Street.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, June 20, 1893, at 8 o'clock.

The President, Dr. John C. Shaw, in the Chair.

There were about seventy-five members present.

The minutes of the May meeting were read and approved.

The Council reported favorably upon the following applications for active membership, and recommended that they be elected to membership: Dr. J. Thoms, L. I. C. H.; Dr. Edward Wm Wright, Ontario Medical College, 1886: Dr. Louis M. Miller, P. & S., New York, 1880; Dr. Harvey P. De Forest, P. & S., New York, 1893; Lawrence P. McGilligan, Bellevue, 1893; Dr. W. H. Davis, University of New York, 1861.

The following having been favorably reported upon by Council were declared elected to membership:

Corresponding: Dr. Landon Carter Gray, Bellevue, 1873, New York City; Dr. Elliott Gorton, L. I. C. H., Morristown, N. Y.; Dr. J. T. Christensen, L. I. C. H., St. Paul, Minn.; Dr. George K. Meyner, Jamaica, L. I.; Dr. A. H. Buckmaster, L. I. C. H., 1882, New York City.

Active: Drs. Albert C. Bunn, W. S. Torrey, Fred. J. Wood.

The Council recommended that the resignation of Dr. W. A.

Bliss, on account of removal from the city, be accepted, and he be placed on the non-resident list.

On motion, this recommendation was adopted.

The Secretary presented the following applications for membership:

Dr. David M. Staebler, 690 Macon street, Toronto University, 1885; proposed by Dr. Heber N. Hoople, Dr. G. R. Fowler.

Dr. William Snyder, 139 Montague street, L. I. C. H., 1888; proposed by Dr. James W. Ingalls; Dr. Richmond Lennox.

SCIENTIFIC BUSINESS.

Dr. George McNaughton presented "A Description and Photographs of a Coach Designed for the Removal of Invalids," which was discussed by Drs. Skene and Burge.

Dr. George A. Evans presented a paper entitled "Mensuration in the Physical Diagnosis of Pulmonary Phthisis." Dr. G. R. Butler opened the discussion, and Miss Marsh, an experienced operator, who was present at his request, demonstrated on one of her pupils, the various movements of pulmonary gymnastics. Drs. Westbrook, Williams and Mosher also discussed the paper.

Owing to the lateness of the hour, on his own motion, the paper of Dr. William W. Browning, entitled "Remarks on the Teaching of Practical Anatomy," was postponed to some future meeting.

On motion, the Society then adjourned. D. MYERLE, *Sec.*

MISCELLANEOUS.

THERAPEUTIC NOTES.

For the wasting diseases of children, whooping-cough, and in many cases of bronchitis, hydroleine, a pancreatized preparation of cod-liver oil, has been extensively used with very satisfactory results at the Harlem Hospital Dispensary. It is spoken of in most commendatory terms by members of the medical staff of the New York Foundling Hospital, the Brooklyn Orphan Asylum, Kings County Hospital, St. John's Hospital and other public institutions in New York and Brooklyn.

Every physician has felt the want of a pleasant purgative for children. Dr. C. H. Smith writes to the Columbus Medical Journal that the following formula has been used by him for years:

℞ Glycerini ℥i.
Ol. Cinnamoni gtt. vi.
Trit. bene et adde
Ol. ricini ℥i.
M S. ℥i. at a dose p.r. n.

For chronic constipation Dr. Delafield prescribes the following pill:

℞ Strychniæ sulph gr. 1-40.
Pulv. ipecac.
Ext. belladonna.
Ext. colocynth. Co. aa. gr. 1-4.
M Ft. pil. No. i.
S. Four pills daily at first; then three and afterwards two.

For ringworm paint with a saturated solution of salicylic acid in collodion. One painting is said to be enough.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

A NEW MEDICAL DICTIONARY.—A completely new Medical Dictionary is announced for early publication by Lea Brothers & Co. The author, Dr. Alexander Duane, of New York, is already widely known as the medical expert for Webster's International Dictionary. His new work has been drafted to supply medical students with all desired information concerning the words they will meet in their course of reading, and as the vocabulary has been selected most liberally, the work will be of value to practitioners also. The pronunciation of each word is given by a simple and obvious phonetic spelling; then follows the derivation, an unexcelled aid to memory, and finally a full definition. Descriptive matter has been appended to such words as cannot be adequately explained by simple definition. Thus diseases are described, and their symptoms and treatment are given; drugs are followed by their properties, effects, doses, etc. Extensive tables of bacteria, doses, etc., are placed in the alphabet most conveniently for reference. A work of real value is promised, and we shall take an early opportunity of reviewing it in these columns.

DUNGLISON'S NEW PRONOUNCING MEDICAL DICTIONARY.—A new edition of Dunglison's Medical Dictionary is announced as in press for early publication. It has been thoroughly revised and greatly enlarged, and will contain about 44,000 new medical words and phrases. Pronunciation has been introduced into the new edition by means of a simple phonetic spelling. This work has always been noted for the fulness of its definitions, ample explanation being its distinguishing characteristic. In the new edition much encyclopædic information, difficult of access elsewhere, will be found conveniently at hand. Especial attention has been devoted to matters of practical value. A review will appear in an early issue.



SIR ANTHONY CARLISH.

This is a portrait of this distinguished surgeon; representing Sir Anthony as Professor of Anatomy in England's Royal Academy of Arts, when he succeeded Mr. Sheldon, whose predecessor was no less a teacher than William Hunter.

He was a descendant of an ancient and noble family, having first seen the light in the county of Durham, England, in 1768.

Having had considerable attention paid to his preliminary education he went to London, for the purpose of placing himself under the professional instruction of the most eminent of the teachers of that city; and became a pupil of the Hunterian School, attending with unwearied diligence the valuable lectures of Cruikshank, Hunter, and Dr. Baillie.

His talents and industry soon attracted the notice of the great John Hunter.

It is said that Mr. Hunter had mentioned the fact that he considered that a cast of the labyrinth of the ear a great desideratum in understanding its anatomy; which young Carlish had the ingenuity to prepare and present to his teacher, wh ch so pleased the distinguished physiologist that he gave Carlish a perpetual ticket to his lectures, and predicted his future eminence. Hunter afterwards proposed to Carlish that he become his proctor, and undertake the arrangement of his museum.

This offer, however, was not accepted, and Carlish became a resident pupil of Mr. Henry Watson, one of the surgeons to Westminster Hospital; and upon the death of his preceptor became his successor at the hospital, with which he continued to be connected for the remainder of his long life, giving regular lectures on surgery to the pupils.

His early association with Hunter, whom he passionately admired, had a great influence in forming the habits of study in young Carlish.

"Do not deceive yourselves," Hunter would say to his class, "you cannot become great in any profession without uncommon industry, the exercise of self-denial, and a subjection of all the powers of the mind to the one great object of your ambition." Acting upon this advice Carlish devoted himself to the study of his profession with a zeal rarely exhibited among medical students.

It is said that when the chair of anatomy at the Royal Academy became vacant, the distinguished anatomist Charles Bell was a candidate for the position, and his claims were warmly advocated by many of the most eminent surgeons and artists; Abernethy withdrew his candidature in favor of Bell, and Sir Astley Cooper wrote a letter urging his appointment; but notwithstanding all this Carlish was appointed; and it is said lectured to but four pupils in his first course. He held the position for sixteen years, to increasing and appreciative classes, and on his retirement carried with him the good wishes and sincere thanks of all the members of the Academy, in token of which he was presented with a valuable piece of plate.

Medical classes at this period were never large. John Hunter's class never exceeded thirty; but the quality of his audiences was good, as we may perceive when we think of its having included Astley Cooper Clive, Abernethy, Carlish, Chevalier, McCartney and others whose names are known in the annals of our profession. In 1808 Charles Bell had but thirty-six pupils.

His additions to our knowledge of anatomy, physiology, surgery and the allied branches are many and his writings are well-known.

He died in 1840.

J. H. H.



WILLIAM BUTLER.

The subject of this portrait was born in Ipswich, England, about the year 1535, and educated at one of the Cambridge colleges, of which he became a fellow, but did not take a regular medical degree, and leaving the University, settled in Cambridge, and became without that badge of the "regular physician" the most popular and celebrated practitioner of medicine in the kingdom.

It does not appear that he made himself conspicuous for critical, polite or philosophical knowldege; but he seems to have been bold and original in his practice, and to have possessed a natural sagacity in judging of diseased condition; and what was more than all his manners were extremely odd and capricious, which with the vulgar, often passes for a mark of extraordinary abilities.

He is said to have first been taken public notice of in his profession from the following incident:—"A clergyman, in Cambridgeshire, by excessive application in composing a learned sermon, which he was to preach before the king, had brought himself to such a way that he could not sleep. His wife was advised to give him opium, which he took in so large a quantity that it threw him into a profound lethargy. Butler was sent for, who upon seeing the case, flew into a passion, and told the wife that she was in danger of being hanged for killing her husband, and very abruptly left the room. As he was going through the yard, on his return home, he saw several cows, and asked her to whom they belonged? She replied, to her husband. "Will you," says the doctor, "give me one of those cows if I restore him to life?"—She answered, "With all my heart." He ordered a cow to be killed and the patient to be put into the warm carcass, which in a short time recovered him.

But it must not be supposed that it was entirely by such remedies as these that Butler acquired his reputation; but by chemical preparations, which he is said to have been the first to use in England. He is said to have been held in high esteem by VanHelmont, who was with Paracelsus the father of our present chemico-medical therapeutics.

He also held high rank as an alchemist, and he was reputed to have discovered a stone by which he cured the most dangerous diseases, and an investigation of the subject by Sir Kenhelm Digby, of sympathetic powder renown, convinced the investigator at least, of the truth of the report.

Fuller paints this eccentric man in the following striking colors:

"Knowing himself to be the prince of physicians, he would be observed accordingly. Compliments would prevail nothing with him: entreaties but little; surly threatenings would do much; and a witty jeer do anything. He was better pleased with presents than money; loved what was pretty, rather than which was costly; and preferred rarities before riches. Neatness he neglected into slovenliness; and, accounting cuffs as manacles, he may be said not to have made himself ready for some seven years together."

He was highly esteemed by King James, and it is told that on one occasion when the king had sent for him, he turned back home and the king's messenger was compelled to drive the doctor before him *nolens volens*.

The physicians of this period were jolly fellows. They made deep drinking and intrigue a part of their practice. Their books contain arguments in favor of indulgence, which their passions suggested and the taste of the times approved.

Butler loved dearly his pipe and his ale. Tobacco specially he deemed

"A physician
Good both for sound and sickly;
'Tis a hot perfume
That expels cold Rheume
And makes it flow down quickly."

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

TUBAL PREGNANCY.

BY B. F. KINGSLEY, M.D.,

San Antonio, Texas.

Read by title before the Texas State Medical Association at Galveston.

The following fatal case of tubal pregnancy is deemed worthy of record and is given as a small contribution to the important subject of ectopic gestation. It will be seen with what theory this case best coincides as to origin, symptoms and treatment.

On the morning of August 28, 1892, my sister, Dr. Josephine Kingsley, was called to see Mrs. B., æt. twenty, of medium height, weight about 135 pounds, and of robust appearance. She

had been married five months; her menses ceased one month after marriage; soon after which she began to have small occasional pains in the lower part of the abdomen and to the left; for these she consulted Dr. J. Kingsley on the 16th of May, who prescribed for her, and did not again see her until July 29th, when she found her suffering from the same symptoms in a more aggravated form; her menses had not returned, and there was a distinct tumor on the left side. The symptoms were regarded as suspicious, and a diagnosis of probable tubal pregnancy made. She was advised to keep herself under observation. However, she disappeared until about 9 A.M. on the morning of August 28th, when Dr. J. Kingsley was again sent for, and it was learned that the patient had been seized late the previous evening with a violent attack of cholera morbus. She had been vomiting and purging and suffering intense pain all night; at this time she was given a hypodermic injection of morphine.

She was pale, her pulse small and rapid, and she had a pinched expression at 12 M. My sister requested me to see the patient in consultation with her after dinner, remarking that she suspected ectopic pregnancy. At about 1 P.M., while at dinner, a message came by telephone saying that the patient was dead; to come immediately. We responded promptly, taking Dr. F. M. Hicks with us to assist in holding an autopsy, which was obtained with some difficulty. A cholera scare was prevalent just at that time, and a rumor that she had died of that disease soon spread. To put at rest this question, and if possible to verify previous suspicions, an autopsy was finally consented to. On opening the abdomen, the child was found free in the abdominal cavity on the left side, surrounded by large and firm clots, which extended along the cord some distance to the opening in the tube, near which was the attachment of the cord. The uterus was brought to view and shown to be nearly, if not quite, normal size. Next, the right ovary was exposed, and seen to be considerably enlarged, perhaps to twice its normal size. I very much regret that I did not secure the entire uterus and appendages, which I could not do.

In obtaining her history it was learned that she had always, from puberty, suffered from irregular and painful menstruation. She was a young woman above reproach, without any specific history whatever. Soto the dysmenorrhœa and its consequent inflammatory sequelæ we may pretty clearly trace the origin of this case.

Points of special interest in this case are the age of the patient, her previous condition of health, which had been perfect

except her menstruation; her first pregnancy, the prompt and complete suppression of menses after marriage, the rapid development of pain, and the character thereof, i.e., coliky, which she attributed to and was told was due to normal pregnancy, the absence of decidual discharge, the nearly normal size and condition of the uterus, the attachment of the cord and development of the fœtal cyst upon or in the fimbriated extremity of the tube (see photograph of specimen herewith presented), making its final rupture into the abdominal cavity inevitable.



We find it probable that this case had gone to about the end of the fourth month, and would have continued longer, in all probability, had it not been for the incidental attack of cholera-morbus, which unquestionably precipitated the rupture of the fœtal cyst and so quickly decided the fate of the patient. It will also be observed that it supports the tubal theory of ectopic pregnancy, although it extends far toward the ovarian, and how forcibly it emphasizes the operative plan of treatment, for here surely no other treatment would have been so admissible or so successful, for there were no adhesions or other obstacles to success. Had this been done four to six hours before her death even, I am sure her life could have been saved; but the violent attack of cholera-morbus so masked the symptoms that to correctly diagnose her condition at the only time possible to save her was out of the question.

I cannot but think that it would have been good surgery to have removed the other ovary in this case, had she undergone an operation.

THE PREVENTION OF BLINDNESS FROM OPHTHALMIA NEONATORUM.

BY L. A. W. ALLEMAN, M.A., M.D.

Read at the ninth annual meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn on May 23, 1893.

It is not my purpose here to enter into a detailed consideration of ophthalmia neonatorum, but to invite you to discuss with me the most practical means at our command of preventing it, and the disastrous consequences to vision so frequently consequent upon it. And I beg each one of you to consider it not in the light of some remote and impersonal question of expediency, but to make it a matter of personal responsibility and duty. The disease and its sequelæ are now but too frequent, but with the constant unloading on our shores of the most degraded, destitute and brutalized classes who will largely remain in our seaboard cities, the problem assumes still graver importance, for it is not among our own clientele that this disease is common, but among the poorer and less intelligent classes, and it is to us that the community must look for guidance in the matter, and I feel that it is only by the united and most strenuous crusade of education emanating from the profession and filtering through the different strata to the lowest, that the evil can be reached and the mischief prevented

The prevention of blindness is a subject which commends itself to us not alone as physicians—but as citizens. It addresses us most strongly through our sympathies it presents itself to us practically in our tax bills.

The first consideration is amply sufficient to induce us to put forth every effort. What appeals more strongly to our sympathies than the sight of a fellow man shut out forever from the beauties of this visible universe! The deep and universal compassion which these unfortunates excite is attested by the number and completeness of the charitable institutions provided for their relief, yet while we rejoice that such institutions exist by which the miseries of blindness are made to bear as lightly as possible upon its victims, it is nevertheless apparent to us that the support of the blind must be a tax upon the industry of the community.

It is said that the surest road to the public conscience is through the pocket; if this be true, let us not neglect to emphasize the fact that every case of preventable blindness is not only an injury to the individual who becomes blind, but is as well a crime against the State in that it deprives it of an efficient citizen, who, save for this misfortune, should contribute to the general welfare, and causes him to become a burden to his fellows.

This fact has been very forcibly pointed out by Dr. Lucien Howe, to whose efforts we are largely indebted for some awakening of popular interest in this subject.

In a paper presented to the American Ophthalmological Society some time since, he shows the startling amount of this charge upon the community for the support of the blind. Estimating the cost of maintenance at a minimum, as based upon the reports of large and economically administered institutions for their care, he finds the cost of their support to be for food and clothing, $132 a year for each person.

Taking the estimate of wages at only $1.20 a day for men and 40 cents for women per working day, "supposing that not one of all these thousands could become skilled artisans," there is a total loss to the community in wages and support each year of $404 for each man and $256 for each woman. This—he continues—at the very minimum estimate amounts in 1880 to $16,383.272 for the blind population of the United States.

Of the various causes which contribute to swell the army of the blind, ophthalmia neonatorum is preëminent.

The following statistics from a recent text-book (Noyes, Disease of the Eye) on the subject show us its relative importance. Of the inmates of blind asylums the number made blind by this disease were: In Copenhagen, 8 per cent.; in Berlin, 20 per cent.; in Vienna, 30 per cent.; in Paris, among 208 young subjects, 45 per cent.

In 1876 it was shown that among the young persons admitted to the blind institution of Germany and Austria, 33 per cent. had been made sightless by this disease. In different countries the variation was from 20 per cent. to 79 per cent. (Horner.)

In Philadelphia Dr. Harlan found in 1871 out of 167 inmates of the blind asylum, about 20 per cent. had been admitted for this cause. These, we must remember, are but the destitute and totally blind. Add to this the number who are cared for at their homes, and those who escaping total blindness, are yet more or less incapacitated by the impairment of one or both eyes, and you at once perceive the frightful ravages of this disease.

Ophthalmia neonatorum, as its name implies, is an inflammation of the eyes, making its appearance shortly after birth. The slight cases of conjunctival irritation more or less annoying which are frequently met with in practice need not here engage our attention, but the graver cases characterized by swelling and redness of the lids, thin, irritating discharge soon becoming purulent in nature and frequently attended by more or less serious involvement of the cornea, constitute the class against which our efforts must be directed. The clinical picture which is familiar enough to all of you, and which is described in all text-books on diseases of the eye, need not be dwelt upon, and we will consider briefly the question of prophylaxis.

The origin of the disease is no doubt from the entrance into the eyes of the child, either during or after birth, of abnormal secretions from the birth canal. Its prevention must therefore depend either upon destroying the infecting germs in the birth canal before the passage of the head, or upon destroying in the eye itself such germs as may have found entrance there.

From purely theoretical considerations the former plan seems the preferable one, but the difficulty of thoroughly destroying noxious germs under any circumstances is admitted, and the task of removing all possible source of contagion from the vagina is well nigh impossible. However, an attempt to accomplish this has been attended with a marked decrease in the percentage of infection, and in all cases where the presence of a specific discharge is suspected, thorough antiseptic douching of the vagina before labor should be practiced. Our chief reliance should, however, be placed on direct application to the eyes of the child immediately after birth.

If statistics are ever of any value they conclusively prove that treatment of the eyes of the child, according to Credé's method, will enormously reduce the number of cases of infection. It does, in fact, I believe, afford practical immunity from ophthalmia neonatorum, when properly carried out. I consists of drooping into the eyes of the child a single drop of a 2 per cent. (10 grs. to the ℥ i.) solution of nitrate of silver after the lids are thoroughly washed. The cases of failure when this method is pursued are, I believe, chiefly due to the fact that the application does not reach the eye. The swelling of the lids frequently present after a hard labor renders this operation by no means easy, and if the attempt is made in a perfunctory manner the drop is placed between the swelled external surfaces of the lids which meet over the eye and is mistaken for the palpebral opening and fails to reach the eye altogether.

Of the various methods proposed for the prevention of ophthalmia neonatorum, experience has shown this to be by far the best, and the propriety of its employment in all lying-in institutions, and in such cases in private practice as may be deemed in the least suspicious is not only not open to question, but I believe its neglect to be criminal. The only debatable question is whether its employment should be extended to all cases and become a routine method of practice. With slight modifications in method, I think this is advisable. In the great majority of cases in private practice, I will admit that it is unnecessary, but that cases do occur when the possibility of gonorrœhal infection is not to be entertained, where not only annoying but even serious inflammation arises in the eyes of the child, I know to be an undoubted fact.

These cases can without doubt be controlled by prompt treatment, but their occurrence is always unfortunate, and to say the least, makes us extremely uncomfortable when they do occur. The objections to this method of prevention are that it involves a little trouble on the part of the attendant which I think is scarcely worthy of even passing mention, and that the employment of a two per cent. solution of nitrate of silver will in some instances give rise to a slight conjunctival irritation which it is desirable to avoid.

I think the objection may be met by the employment of a one per cent. solution which will occasion but trifling pain and no subsequent irritation worthy of mention. So far as I am aware, no instance is on record in which the employment of even the stronger solution, was attended by any ill result. Although the weaker solution does not furnish so absolute a guarantee against the occurrence of the disease, yet I believe it to be quite sufficient in cases where we have no reason to suspect the presence of an infectious discharge from the vagina, and I would accordingly urge that we practice and teach this method of prevention in *all* cases; a thorough and careful washing of the lids being, of course, a prerequisite to its employment.

A much more difficult problem, however, than the management of our private cases is present in the prevention of this disease among that large class of the community who are not attended during labor by a physician, and among whom, owing to the frequency of venereal diseases, its occurrency is most common.

Before the days of vaccination, our blind asylums were filled with the victims of small-pox; to-day this cause of blindness is comparatively infrequent. This disease in its virulent and most

dangerous form has been nearly stamped out, because society, being fully aware of its dangers, has been shown an easy and effective method of escaping them.

In like manner, ophthalmia neonatorum as a cause of blindness will disappear, and will only disappear when a knowledge of the nature of the disease, its terrible dangers and its ready prevention or cure shall become thoroughly disseminated. The problem to which we must address ourselves is of the best means to bring about such an education.

Whatever may be our views as to the advisability of popularizing medicine in this particular instance, there can be no more question of the advisability of publishing abroad a warning against this disease than against the danger of letting a scarlet-fever patient run at large among healthy children.

Legislation may be enacted, in fact, has been enacted, on the subject, but until someone becomes interested in the matter it is not of the slightest avail.

A few years since the following law was passed by our State Legislature:

"CHAP. XLI.—*An Act for the Prevention of Blindness.*

"SECTION 1. Should any midwife or nurse having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant, to report the fact in writing, within six hours, to the health officer or some legally qualified practitioner of medicine of the city, town, or district in which the parents of the infant reside.

"SEC. 2. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

"SEC. 3. This act shall take effect on the first of September, eighteen hundred and ninety."

I doubt if any of you have ever had your attention called to this act by other means than a possible newspaper paragraph at the time of its passage. Some two years since the matter was brought up in the Kings County Medical Association, was referred to the Executive Council and has not been heard of since. About the same time the Kings County Medical Society took the matter in hand and appointed a committee to confer with the Board of Health with the view of calling attention to the act, and to enforce a strict observance of its provisions. So far as I am aware, they are still deliberating.

Now, gentlemen, can we sit comfortably down and regret that somebody does not take an interest in this matter and do something about it? Can we avoid the personal responsibility that devolves upon each one of us? Can we look upon these unfortunate little victims and not feel that while we are not aggressively active in educating the public to a proper anxiety in these cases—that we are not in each individual case partially responsible? In the great majority of cases which terminate in these terrible calamities the parents of the child are not wilfully negligent—they do not want their children to become blind, and are heart-broken over the discovery that the case has been too long neglected. Some time since, while on duty at the New York Eye and Ear Infirmary, on one day I had two children brought to me, both hopelessly blind from ophthalmia neonatorum. The mothers informed me that they had taken the children to the nearest druggist, who had prescribed some wash, and assured them that there was no danger. The child not improving, one had gone a second time to receive a new prescription and an assurance that all was well. Finally, some one had advised them to come to the hospital. When too late they learned that the precious time had been wasted, and that now nothing could be done. Had they but suspected that babies' sore eyes might be attended with serious consequences these tragedies would not have occurred.

With such instances before us, can we be too strenuous in our efforts to disseminate these facts? From those with whom we come in contact this knowledge will filter down to the people to whom its importance is so great. Each one of us can act as a centre through our students, through nurses, through our patients who on various benevolent missions find their way to the houses of the poor—we can send our message, and let me urge you in season and out of season, to teach and preach that babies' sore eyes is a terrible disease, that is frequently followed by blindness, that it is preventable, and that when a case is discovered the child must at once be placed under the care of a competent physician, and that extremest poverty need deter no one from the most competent care; that throughout these great cities are hospitals and dispensaries accessible to all, where these children may receive the best possible attention and may be speedily cured if they will only come in time.

LITHEMIC NEURASTHENIA.

BY ARTHUR CONKLIN BRUSH, M.D.,

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This condition, which has been described since the days of Galen under such names as lithemia, latent gout, cerebral congestion, urecæmia and functional disorder of the liver, seems to the writer to be of far more importance than the space allotted to it in even our latest text-books would indicate. The cases are very common in all ranks of life and differ widely in severity from merely a trivial condition of discomfort to one in which the patient's life is rendered wretched and his usefulness impaired.

Differing widely as these cases do as to their causation and symptoms, they are often by no means easy ones to treat, relief if obtained often being but temporary, and a relapse occurring as soon as ever therapeutic measures are relaxed.

The undoubted cause of previous therapeutic failure in some of the cases which have c me under my care has been the failure to recognize the real nature of the condition, which may easily be confused with one of three general conditions: Chronic malarial poisoning, the treatment for which by quinine and arsenic usually aggravates the symptoms; but this is by no means an unpardonable mistake, for this condition very frequently follows as a sequel to the malarial poison.

The wandering pains often found in these cases are considered as rheumatic and the case treated as such.

The occurrence of albumen in the urine of some lithemic patients may cause these cases to be classed as nephritic, and the patient is rendered miserable by being told that he has "Bright's disease."

The name of lithemic neurasthenia is, perhaps, the best for this condition; for in it we have a neurasthenia due to the presence in the blood of certain mal-products formed by disordered hepatic action producing direct nerve poisoning, associated with symptoms arising from a general vaso-motor paresis and to a disturbance of the mental condition, due to reflex disorder of the cerebral centres which preside over the liver. This relationship between the bodily organs and the brain has been pointed out a number of times.

Maudsley says, "that each internal organ of the body has independently of its direct action upon the nervous system through

changes in the composition of the blood, a specific action upon the brain, through its intercommunicating fibres, the conscious result whereof is a certain modification of the mood or tone of the mind. It must not be supposed that each organ is the cause of a special passion or desire. Consciousness is the compound product of an infinite number of simple and compound vibrations coming from the internal and external organs of the body."

The nature of the mal-products formed by disordered hepatic action has been carefully worked out during the past few years. Dr. James Wood has beautifully shown how by a suboxidation of the proteid food elements we have a decrease in the normal amount of urea formed, with an increase in the amounts of uric acid and kreatinine, and with these such abnormal formations as lactic acid, which explains the close relationship which exists between disordered hepatic action, rheumatism and gout.

The peculiar mental condition found in these cases, then, seems to be due to the direct toxic action upon the cerebral cells, to the reflex disturbance of the hepatic centre, and to the vascular disturbances. We might divide these cases into two groups, in one the disordered hepatic action is but a part of the general want of nervous tone, for if each internal organ of the body has its centre in the cerebral cortex, through which it takes its part in the mental processes, anything which causes cerebral exhaustion must affect this centre and thus give rise to disordered hepatic action. In the other group we have those cases in which the hepatic disturbance seems to be primary. Either the patient seems to have inherited a liver which is unable to meet the ordinary demands of life, or the liver is over-worked from the patient's taking too large amounts of, or improper kinds of, food.

The exciting causes, then, may be divided into two sets. First, those which act by producing general nervous exhaustion, such as hot climates, warm weather, excessive mental or physical fatigue, anxiety, undue emotional disturbance, diseases of other organs and vicious habits. Second, those causes which act directly upon the liver, as too large amounts of either the hydrocarbonaceous or nitrogenous elements in the food, tobacco, alcohol, especially the malt liquors and the malarial poison. Whether the poison produced by the plasmodium acts directly upon the liver, or does so by acting upon the nerve centres, is unknown, but there is no question that its effects may persist some time after the disappearance of the plasmodium.

Lithemic neurasthenia is frequently found complicating the subacute forms of rheumatism and gout, but if we accept the

lactic and uric acid theories we must consider them as associated conditions, both being due to the disturbance of the hepatic functions.

The physical effect produced by this disturbance of the hepatic function divides these cases into two groups. In one the secretion of bile is interfered with, its amount diminished and the patient becomes anæmic, emaciated and constipated.

In the other the billiary secretion is not disturbed, and these patients are often florid and robust; but otherwise the symptoms are the same in both sets of cases, showing that it is not the bile producing function that is at fault. Prominent among the symptoms is a feeling of intense nervousness, and with this there is often a fear of some impending but unknown evil. They are often very melancholy, given to exaggerating their symptoms, and men are said thus to produce functional impotence. Disturbances of sensation, often confined to limited areas, such as formication, numbness and neuralgic pains are common, and with the fibrillary muscular twitchings, often confined to some one bundle of fibres; or tonic, painful contractions of an entire muscle or group of muscles may occur. Attacks of rapid and tumultous heart action, giving rise to vertigo and dyspnœa, are common and often very alarming to the patient. These may be due to indigestion and flatulence.

The pulse in the first set of cases is usually rapid and feeble, and the skin pale and cold. In the second set it is slow and strong. Insomnia to some degree occurs in nearly all the cases. These patients complain that they are restless at night, but on the other hand they are drowsy during the day.

Tinnitus aurium, often confined to one ear; and dark or bright spots before the eyes are common. The short periods of sleep which these patients enjoy are usually unproductive of much rest from the constant recurrence of dreams, and the nervous exhaustion which is due to this want of cerebral rest, has probably much to do with the production of many of the nervous symptoms in these cases.

The mental powers of these patients are usually disturbed—they complain of confusion of thought, loss of memory, inability to fix attention, and their angry and melancholy emotions are easily excited.

If there be, as already stated, a relationship between the bodily organs and the mental processes, and we can hardly doubt it when we reflect what a marked effect the condition of the genital organs has upon the mind. The mental condition of gloom,

apprehension and emotional irritability found in these cases is well worth a more careful study, for these symptoms form the ground work of that psychosis known as melancholia. In fact, the latter disease owes its name to this supposed relationship; but what led the Greek physicians to form this conclusion it is impossible to say. Dyspeptic symptoms occur to some degree in nearly all the cases.

The tongue is usually covered by a more or less thick, white or yellowish coat. There is pain, nausea, or vomiting sometimes containing bile, and flatulent distention of the stomach and intestine. Associated with this, constipation is common and the stools may be deficient in coloring matter.

The urine may contain an excess of urates, oxalates and phosphates, and it is due to these salts that we have not only the symptoms arising from their local irritant action, but another of far more diagnostic and prognostic importance, the more or less constant presence of a slight amount of albumen in the urine, due to the local irritation and congestion of the kidney; and it is probable that if this irritation be long enough continued chronic nephritis may occur.

The indications for treatment, then, are to find the cause and remove it if possible, to restore the normal function of the liver by the use of drugs and a regulated diet, to restore the normal tone to the circulation, and to soothe, rest and strengthen the nervous system.

It is, of course, of the first importance to find out and remove the cause if possible; but, even when we cannot do this, much can be done towards relieving the patient's troubles by meeting the indications, though of course a relapse will occur as soon as our efforts are relaxed.

It is well to begin the treatment of these cases with a dose of calomel, combined with the bicarbonate of soda. This not only relieves any existing constipation, but also increases the hepatic action. This for some reason is often followed by an aggravation of the neurotic troubles, which, however, gives place to an improvement. It is often necessary to repeat the dose at intervals.

The constipation, when present, is due to two causes—to a deficiency in the amount of bile and to a muscular paresis of the intestinal wall.

To relieve this we may give the different salines, as Carlsbad salts every morning, with vichy three or four times a day, or cascara sagrada, as advised by Gray and Da Costa, but these plans of treatment do not seem to the writer to meet the indications,

and practically his success has been greater with the ordinary mixture of rhubarb, ipecac and soda; or the pill of aloes, belladonna and strychnine; or even with those drugs which act by increasing the hepatic secretion alone.

To increase the functions of the liver we may give such drugs as are known to increase one of them, the secretion of the bile, as podophyllum, aloes, rhubarb, ipecac, hydrochloric acid, the phosphates, sodium benzoate and salicylate, ammonium phosphate and chloride and mercuric chloride.

Just which drug we select will, of course, depend on the nature of the case.

The salicylates and benzoates, although they may increase the billiary secretion, at the same time increase the cerebral symptoms and aggravate the patient's distress. The only cases in which I have found them of value are those in which the urine is loaded with uric acid or are of rheumatic origin.

I have obtained by far the best results with a combination of ammonium chloride and ipecac; but, like all such conditions, we may have to try a number of drugs before we find one that will act.

The diet, of course, should be one that allows the liver to perform its functions with the least possible effort. That advised by Da Costa has answered best in my hands, and seems to fulfill all the indications. Sugar in any form is prohibited, and the diet to consist chiefly of vegetables, especially the green ones.

With these the patient may have fruit, tea, coffee, cocoa, limited amounts of oatmeal, buckwheat cakes, corn, rice, bread, butter, oysters, fish, white meats and poultry; but meats containing much nitrogen, such as beef and mutton, should be avoided. With this the patient may also have moderate amounts of milk, the alkaline mineral waters and light wines; but no beer. Anæmic patients may, however, require larger amounts of butter, meat, milk and eggs.

Besides the diet, the general life of the patient should be carefully regulated. The use of tobacco should be prohibited or reduced to the lowest possible limits. They should take plenty of exercise short of fatigue, and should bring into play as many muscles as possible. The cold bath, especially after exercise, is of great benefit.

Gentle mental work is also of benefit, but prolonged or severe mental labor, or anything which produces excitement or disturbs the emotions should be avoided.

Digestive disturbances should be corrected by the use of

proper drugs. Anæmia calls for iron and arsenic, and when the irritability of the nervous centres is not present, strychnine and and quinine are of great value, especially in cases with marked weakness of the sympathetic system. The insomnia, intense nervousness and irritability which is usually so marked in these cases, call for the use of the bromides, especially in the earlier part of our treatment. In severe cases they may be combined with or replaced by chloral, chloramide or cannabis indica.

The insomnia and restlessness will sometimes yield to the warm bath taken at bed-time, but gentle fatigue which makes rest a positive pleasure, is one of the best methods of removing nervous irritability.

MENSURATION IN THE PHYSICAL DIAGNOSIS OF PULMONARY PHTHISIS.

BY GEORGE A. EVANS, M.D.

Read before the Medical Society of the County of Kings, June 20, 1893.

The following statements may be found in a leading work on Physical Diagnosis:[1] "A most abundant formation of miliary tubercle is often found in lungs which during life gave no physical signs of disease. When physical signs are present they differ in no way from those of extensive bronchitis. The diagnosis rests almost entirely upon the general symptoms and the history of the case."

The diagnostic value of these "general symptoms and history of the case" may be questioned when we read in another work,[2] of equal merit, on this subject, that: "The acute variety of this affection has been repeatedly mistaken for typhoid fever." Again we are told in the work first quoted, that "we seldom employ mensuration in physical examinations of the lungs unless great accuracy is required, as in the record of cases."

These statements are, no doubt, entirely compatible with one another; nevertheless it seems to the writer that if the general symptoms and history of a case of rapid pulmonary tuberculosis are so difficult to differentiate from those of a case of typhoid fever, and bearing in mind the inability of inspection, palpation, percussion and auscultation, individually or combined, always to

[1] "Physical Diagnosis." By A. L. Loomis, M.D.

[2] "Auscultation and Percussion." By Austin Flint, M.D.

guide us to a correct conclusion, then mensuration may, with fair opportunity and convenient appliances, serve us to some purpose. At all events, the great accuracy in physical examinations of the lungs to which we are told mensuration so greatly contributes, is in this affection, as well as in others, positively required.

Mensuration should comprehend not only the various dimensions of the thorax, its conformation, movements and vital capacity of the lungs, but it should also include those dimensions of the body which by virtue of bulk and size measurably determine the amplitude and modify the physiological action of the organs of respiration, namely, height and weight. In addition to these it should also take cognizance of the various phenomena of health and disease, admitting of numerical expression, which may in any way relate to the respiratory organs, namely, pulse, temperature, etc.

Numerous instruments have been devised to determine the various measurements of the chest, its shape, movements, vital capacity of the lungs, etc. The most useful of these are the cyrtometer, the stethometer and the spirometer. Calipers of various patterns, the stethograph, invented by Sanderson,[1] to record the movements of the chest on paper; the pneumatometer of Waldenburg,[2] which consists of a manometer adapted to register the tension of the respiratory air currents, are instruments of so little practical utility that they merit only passing mention.

The cyrtometer, originally introduced by Woilles,[3] consists of two halves of a jointed whalebone measure, connected by a hinge, which can be accurately adapted to the shape of the chest so that after removal the various curves on the two sides may be traced on paper. The cyrtometer now commonly in use consists of two ribbons of soft metal, generally aluminum or lead, connected by a hinge of rubber tubing. The hinge is applied over the spinous process at the level desired, and the ribbons are moulded around the chest until their ends cross at the median line in front. The instrument is carefully removed and the outline of its inner border is traced on a sheet of paper, the points corresponding to the sternum and the spine are marked, and on a line drawn from one to the other, the paper is folded so that both leaves may be pin-punctured on the outline representing the nor-

[1] "Hand-book to the Physiological Laboratory." Sanderson.

[2] "Die Pneumatische Behandlung der Respirations und Circulations. Krankheiten", Waldenburg, 1880.

[3] "Dictionary of Medicine." Quain.

mal side of the chest to make more apparent any disparity that may exist between the two sides.

Flint's cyrtometer, a description of which will also answer for Wood's, consists of a compass with short arms holding ribbons of aluminum or lead long enough to encircle the chest. An indicator is set at the desired point by a thumb-screw; the ribbons are moulded around the chest in the manner previously described; the thumb-screw is then loosened and the instrument removed. After removal, the arms of the compass and the indicator are adjusted to the same position as when applied, fastened, placed on a sheet of paper, and a tracing of the ribbons made. With a little practice, a thick piece of malleable copper wire may be made to serve as well as either of the ribbon cyrtometers described; in any case, however, they are liable to err.

Many attempts have been made to devise an instrument that would give a more correct outline of the thorax than can be secured by means of the cyrtometers described; one of these resulted in the invention of the "conformator." This device consists of a straight piece of wood or metal from ten to fifteen inches long, perforated through its transverse axis by a large number of very small canals, through which rods are pushed so that their ends rest at a right angle to, and against the surface of which an outline tracing is desired.

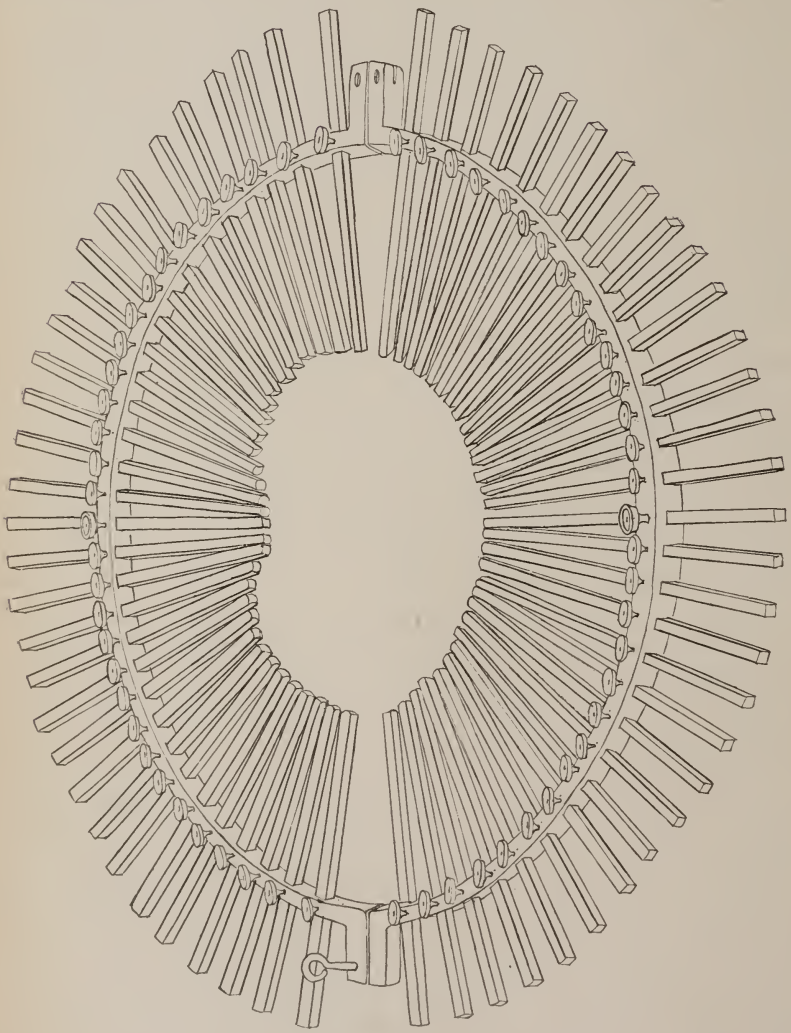
About a year ago the writer endeavored to secure correct outline tracings of the thorax by means of an instrument constructed on the principle of the pantograph; finding this to be impracticable, the plan of the "conformator" was adopted, and the cyrtometer to be described was elaborated.[1]

The instrument consists of brass bar-metal (5-8 inch), curved to form an elliptical frame, twenty-one by fifteen inches. This frame hinges at one and opens at the other of the two points which limit its greatest diameter. At the point of opening a pin operates to make the instrument firm when closed. The frame is perforated, horizontally, by sixty-two grooves or channels, thirty-one on each side, through which brass rods (3-16 inch) slide, converging toward the centre; these rods may be fixed at any point desired by small set screws, which operate from the upper surface of the frame.

The instrument operates as follows: The rods are pushed through the grooves of the frame toward the outside until their centric ends are all on a line with its inner margin; the frame is then opened and the patient placed within so that the antero-pos-

[1] Made by F. Haslam & Co., Brooklyn, N. Y.

terior diameter of the chest corresponds to the short diameter of the ellipse; the frame is then closed, and when the desired level has been attained, the rods are pushed snugly against the chest



CYRTOMETER.

and fixed in that position by the set-screws, care being taken that the sixteenth rod from either end in front is opposite the median line of the sternum, while at the back the corresponding rod is opposite the spinous process.

The frame is now opened and removed, then re-closed and placed on a sheet of paper and a tracing made.

It must be confessed that this instrument is somewhat bulky as well as heavy, and perhaps more difficult to manipulate than any of the others referred to; nevertheless it is much more exact in its results, and may be quite conveniently used if placed on an adjustable combination of table and chair, such as the writer has devised for the purpose.

The stethometer is an instrument for measuring the movements of the chest or of its parts during respiration. Various forms of this instrument have been invented by Quain, Gibson, Leared, Carroll and others. They essentially consist of graduated dials or slides moved by a mechanism connected with cords or tapes passing round one or both sides of the chest.

Expansion on one or both sides of the chest may also be conveniently noted by means of Hare's double tapes. This arrangement is made by joining two ordinary measuring tapes so that the beginning of each may be in the centre. By putting this point of junction upon the spine the ends can be passed around the chest at the required level, and the expansion of each side seen at a glance.

The circumference of one or both sides of the chest may also be accurately determined by this simple device.

The spirometer is an instrument for measuring the extreme breathing capacity of the lungs. This has been called the "vital capacity," signifying "the volume of air which can be displaced by living movements."

This instrument, which was devised by Hutchinson,[1] consists of a mouth-piece and tube communicating with a vessel containing water (gasometer), out of which a receiver of registered and graduated capacity is raised by the patient's expiratory volume of air. Hutchinson's experiments with this instrument on 4,800 male subjects with regard to the modifications of the vital capacity, demonstrated that it bears a definite relation to "height, weight, age and disease."

"Height.—There is an increase of 8 cubic inches in vital capacity for every inch in height between 5 feet and 6 feet. Thus the vital capacity of a healthy person at 5 feet to 5 feet 1 inch being 174 cubic inches; at 5 feet 4 inches it would be 174x32, 206 cubic inches; at 5 feet 8 inches, 238 cubic inches, etc.

[1] Medico-Chirurgical Trans., London, 1846.

"Weight.—Excess in body weight is associated with diminished capacity in the proportion of 1 cubic inch per 1 pound excess.

"Age.—From thirty to sixty years the vital capacity decreases nearly 1 1-2 cubic inch per year.

"Disease.—The vital capacity is diminished in lung-disease from ten to seventy per cent."

From other data gathered by the writer and from personal observations it has been learned that the vital capacity increases from fifteen to thirty years of age; that it is about thirty cubic inches relatively less in females than in males; that there is apparently no direct relation between the circumference of the chest and the vital capacity of the lungs, and that while, as a rule, all thoracic and abdominal disease, characterized by morbid growths, collections of fluid or inflammatory action, limits the breathing capacity, old pleuritic adhesions do not materially affect it.

With regard to the significance of variations in the vital capacity in pulmonary phthisis, Hutchinson reached the following conclusions:[1] "It has been found that ten cubic inches below the due quantity, i. e., 220 instead of 230 inches, need not excite alarm; but there is a point of deficiency in the breathing volume at which it is difficult to say whether it is merely one of those physiological differences dependent on a certain irregularity in all observations or deficiency indicative of disease.

"A deficiency of sixteen per cent. is suspicious. A man below fifty-five years of age breathing 193 cubic inches instead of 230 cubic inches, unless he is excessively fat, is probably the subject of disease.

"In phthisis pulmonalis the deficiency may amount to ninety per cent., and yet life be maintained. The vital capacity volume is likewise a measure of improvement. A phthisical patient may improve so as to gain 40 upon 220 cubic inches."

The following table,[2] showing the normal relation of weight to stature as determined by measurements of 2,648 healthy male subjects, is of so much value in this connection that it is appended. It will be observed that from 60 inches to 72 inches of stature 5.4 pounds are added for each inch. According to the English standard the average man is 68 inches in height, and the average woman is 64 inches. There is no reliable data, however, that shows a relative difference in the weight of the sexes.

[1] Cycl. Anat. and Physiology, loc. cit.

[2] Cyclopædia Anat. and Physiology.

Inches.	Lbs.	Inches.	Lbs.
60	114.5	67	148.4
61	119.9	68	155.2
62	126.1	69	162.1
63	132.9	70	168.6
64	138.1	71	174 2
65	142.1	72	179.6
66	144.6		

Stature in connection with pulmonary phthisis has been shown to have a very important determining influence. James, in writing on this subject, says[1]: "That as tall individuals have a distinctly greater respiratory capacity than short ones, any conditions which render life sedentary must in them produce in a special degree lessening of the respiratory functional activity. Inasmuch, however, as a lessened respiratory functional activity is a fruitful cause of that defective state of nutrition which disposes to phthisis, this means in the tall a greater liability to that disease." In support of this contention James gives the following table of 237 cases of pulmonary phthisis:

Inches.	Per cent. of cases.	Inches.	Per cent. of cases.
62 (and under)	2.1	68	16.8
63	1.6	69	14.7
64	5.9	70	12.6
65	8.8	71	5.0
66	11.8	72 (and over)	6.3
67	13.9		

Age in relation to pulmonary phthisis is a subject of considerable importance. Abundant data exist to show that the disease occurs most frequently between the twenty-fifth and thirtieth years, and that during childhood and from the seventieth year to the close of life it is comparatively infrequent.

THE SHAPE OF THE THORAX.

The thorax resembles an irregular truncated conical case, with symmetrical sides, flattened from before backwards, so that its antero-posterior diameter is about one-third less than its transverse. Of its four surfaces the axillary are the most regular, and the posterior the least so.

The *anterior* aspect of the chest is slightly and regularly convex down to the inferior margin of the sixth rib.

[1] "Pulmonary Phthisis."

The *lateral* walls are regularly bulging from the apex to the edges of the false ribs (base), and they are so thinly covered by soft parts that they closely correspond to the lungs.

The *posterior* surface of the chest, which is made irregular by the spine, muscles and scapulæ, gradually widens toward the base and terminates at the level of the eleventh rib.

The *lower* boundary of the thoracic cavity may be represented by a line drawn from the spinous process of the twelfth dorsal vertebra to the ensiform cartilage; on the left side this line passes a little higher than on the right.

In females the chest is somewhat more conoidal in shape, and its walls are more regular in development than in males; on casual observation, however, this would not seem to be the case.



Outline of a vertical section of a plaster cast of the cavity of the thorax.

In children the chest is more cylindrical in form than in adults, while in old age its conformation is so modified by the habits and occupations of earlier years, as well as by the law of organic mutation, that it is difficult to define a specific type as characteristic of this period of life, except in those cases in which atrophic emphysema occurs, to which reference will be made later on.

The two sides of the chest are of unequal dimensions in about five-sixths of all healthy subjects. An excess of about half an inch frequently exists on the right side in right-handed persons, while in left-handed individuals this excess may be on the left side; it is, however, often the same as the right chest.

There is no distinguishing the sexes by the inside form of the thorax, they so perfectly resemble each other[1]. Todd[2] says: "The

[1] Cyclopædia of Anatomy and Physiology.
[2] *Ibid.*

chest of the female is only absolutely smaller, not always, however, and not relatively smaller than that of the male." My own experience, however, is at variance with this statement.

The following table of average post-mortem measurements of the thorax, giving the mean of the measurements of fourteen males and six females, is of considerable value in this connection :[1]

	Males.	Females.
Age	51 years.	40 years.
Height	66 inches.	62 inches
Weight (without clothes)	110 lbs.	94 lbs.
Weight of heart	13 ozs.	11 ozs.
Weight of right lung	30 ozs.	19 ozs.
Weight of left lung	25 ozs.	17 ozs.
External circumference at nipples	32 ins.	30 ins.
Internal circumference (maximum)	32 ins.	24 ins.
Internal circumference (right half)	15 ins.	13 ins.
Internal circumference (left half)	15 ins.	13 ins.
Greatest depth of thorax, from before backwards	6.5 ins.	6 ins.
Distance between sternum and bodies of dorsal vertebræ	4 ins.	4 ins.
Projection of dorsal vertebræ into thoracic cavity	2.5 ins.	2.5 ins.
Greatest breadth of cavity of thorax	9 ins	8 ins.
Internal superficies of costal walls of thorax	258 sq. ins.	212 sq. ins.
Superficies of diaphragm	49 sq. ins.	35 sq. ins.
Superficies of entire boundaries, costal and diaphragm	307 sq. ins.	247 sq. in.
Volume of right half of thorax	151 cu. ins.	109 cu. in.
Volume of left half of thorax	182 cu. ins.	141 cu. ins.
Volume of entire cavity	333 cu. ins.	250 cu. ins.
Depth of right lung from apex to arch of diaphragm	7 ins.	7 ins.
Depth of left lung from apex to arch of diaphragm	9 ins.	8 ins.
Depth from between apices to diaphragm	8 ins.	7 ins.
Depth from before backwards, right lung (maximum)	6 ins.	5.5 ins.
Depth from before backwards, left lung (maximum)	6.5 ins.	5.5 ins.
Distance between centre of apices of lung	2. 5 ins.	2.3 ins.
Vital capacity	205 cu. ins.	187 cu. in.

EXPANSION OF THE CHEST.

Normal respiratory movements are usually described as superior costal, inferior costal, and abdominal. In superior costal respiration the sternum and ribs rise and fall with inspiration and expiration respectively.

[1] Transactions of Medico-Chirurgical Society, London, 1846.

In interior costal respiration, the lower ribs expand and retract laterally, while in abdominal breathing the parietes rise and fall inversely to the rise and descent of the diaphragm.

According to Sibson[1] the following numbers denote the movements of the various parts of the chest in health:

"(1). The sternum and the first *seven* ribs in tranquil breathing advance forward from .02 to .07 inch. The left *fourth*, *fifth* and *sixth* cartilages, and the *sixth* rib, move less than on the right side, on account of the position of the heart.

"In forced inspiration the movement forward is from *half an inch to two inches.*

"(2.) The expansion of the *eighth* and *tenth* ribs varies from .05 to .1 inch. During deep respiration it is increased, but is less than that of the first five ribs.

"(3.) The abdomen moves forward in tranquil inspiration from .25 to .3 inch. In deep inspiration the movement amounts to about *one inch.*"

In order to determine the relative power of the inspiratory muscles to those of expiration, Todd[2] made pneumatometric measurements of 1,500 men of various classes. The following table, with expressive words attached, gives the result of this investigation:

Power of Inspiratory Muscles.		Power of Expiratory Muscles.
1.5 inch	Weak	2.0 inch.
2.0 "	Ordinary	2.5 "
2.5 "	Strong	3.5 "
3.5 "	Very strong	4.5 "
4.5 "	Remarkable	5.8 "
5.5 "	Very remarkable	7.0 "
6.0 "	Extraordinary	8.5 "
7.0 "	Very extraordinary	10.0 "

Todd states: "When these powers are equal, disease exists."

In tranquil respiration, inspiration exercises very little effect on the circumference of the chest; in deep breathing, however, the enlargement may amount to four or five inches. In the healthy adult the difference between the extremes of inspiration and expiration should not be less than two and a half inches, as shown by the circular measurement of the chest at the level of the fourth rib.

[1] Aitken's "Science and Practice of Medicine," *loc. cit.*,

[2] Cyclopædia Anat. and Physiology.

According to Hutchinson the average frequency of the respiratory movements is twenty per minute in the sitting posture. According to Quetelet, the respiration movements range, in frequency, from 44 at birth to 18 at the fiftieth year.

In males, inferior costal and abdominal respiration are most pronounced.

In females the superior costal type predominates, while in young children, abdominal breathing is most marked, irrespective of sex.

In young women the respirations are somewhat less frequent than in young men of the same age.

Hutchinson determined that the normal relation of the respiratory acts to the pulse are as one to four, i. e., one respiratory act to four pulsations of the heart.

Flint states [1] that: "the various physiological conditions which have been noted as affecting the pulse have a corresponding influence on respiration." In young children, however, the relation of the respiratory acts to the pulse rate is as one to three.

In pulmonary disease the one to four relationship of the respiratory acts to the pulse rate disappears because of a disproportionate increase in the frequency of the former to the latter, while in anæmia its disarrangement is the result of lessened frequency of respiration and an accelerated pulse rate combined.

According to Walshe,[2] the circumference of the chest, taken opposite the sixth rib, ranges between 27 inches and 44 inches (average 35½ inches). Sieveking, however, estimates the average circumference above the nipples to be 38 inches.[3]

Woilles[4] states that the mean circular capacity of the chest equals about 33 inches in the healthy adult.

Page[5] places the normal chest circumference of a person 68 inches high at 38½ inches.

The so-called European standard of measurement determines the normal mean chest circumference to be one-half the individual's height; a person 68 inches high, therefore, should have a *mean* chest circumference of 34 inches.

[1] "Physiology."

[2] "Diseases of the Lungs." (4th edition).

[3] Powell, "Diseases of the Lungs and Pleuræ," *loc. cit.*

[4] "Stokes on the Chest," *loc. cit.*

[5] "Physical Diagnosis."

The following table, compiled by Roberts, shows the progressive increase in the circumference of the chest as it occurs normally:

Age. Years.	Chest Circumference. Inches.	Annual Rate of Growth. Inches.
10	23.77	0.50
11	24.33	0.56
12	24.81	0.48
13	26.30	1.49
14	28.18	1.88
15	29.70	1.52
16	31.19	1.49
17	32.80	1.71
18	34.03	1.23
19	34.76	0.73
20	35.13	0.37
21	35.42	0.29

Temperature.—The temperature of the body in health varies through the day. It has been shown by Jürgensen, Liebermeister, Ogle and others that the temperature of a healthy person in the recumbent posture will fluctuate from 1.8° to 2.3° Fahr., in the course of twenty-four hours, reaching its lowest point between 2 A.M. and 6 A.M., and its greatest elevation between 5 P.M. and 8 P.M.

Remissions and also intermissions of febrile temperature are frequently noticed in the decline of acute affections; they are characteristic, however, of pulmonary phthisis, chronic syphilitic affections, as well as of malarial diseases.

Baümnler,[1] writing on this subject, says: "The intermittent type of pyrexia is most typically shown in malarial fevers, in which the elevation of temperature may follow a quotidian, tertian, or quartan type. The same also sometimes occurs in chronic tubercular disease of the lungs.

"Pyrexia of a remittent type may present a peculiarity which is worthy of note, as being of some diagnostic value. Whereas in the great majority of cases the daily fluctuation follows the rule of health, the exacerbation taking place in the evening, we sometimes meet with cases where this order is reversed, the rise taking place in the morning, and the remission occurring in the evening. This 'inverse type,' as Traube called it, . . . has been observed in some *rare* instances in typhoid fever, more frequently in

[1] Quain's Dictionary of Medicine, *loc. cit.*

cases of chronic lung disease; whilst in doubtful cases of inflammation of the lungs it has more significance as to the disease belonging to the class of phthisis.

Slight deviations in the maximum daily rise of a febrile temperature occur sometimes in this way, that the height is reached in the middle of the day, or that the exacerbation takes place in the night, or that two or more considerable elevations, instead of one only, take place in the twenty four hours. Such occurrences which have been observed in typhoid fever and phthisis, can, of course, only be found out by the observations of the temperature being repeated with sufficient frequency."

In chronic diseases of the respiratory organs not of an inflammatory or tuberculous nature, as well as in chronic heart disease, the temperature is usually somewhat below normal.

In excessive hæmoptysis the temperature frequently falls as low as 97° Fahr. A daily sub-normal temperature is also characteristic of chronic pulmonary phthisis during the early morning hours.

The following statement is based on the writer's own clinical experience: a febrile temperature exists in all the stages of phthisis pulmonalis. *Its daily maximum rise occurs, as a rule, from* 1 *p.m. to* 3 *p.m. In view of this fact, a daily appearance of fever, even though slight, having its maximum rise during the afternoon, should be regarded as evidence in favor of the existence of pulmonary phthisis.*

A sudden pronounced increase of the temperature in the course of a case of chronic tuberculous phthisis, generally indicates the occurrence of a further tuberculization of hitherto healthy lung substance, or the onset of acute miliary tuberculosis.

Table showing the morning, afternoon and evening variations of temperature (Fahr.) in twenty cases of chronic pulmonary phthisis, compiled by the writer from the records of cases in private practice:

Case No.	Sex.	Age—Years.	8 to 10 A.M.	1 to 3 P.M.	5 to 8 P.M.	Stage.
1	Female	29	99.4	102.4	99.8	3
2	"	35	99.	102.	100.8	3
3	Male	25	98.8	100.6	99.2	1
4	Female	33	100.	102.	100.4	3
5	"	33	99.	99.4	99.	1
6	Male	37	99.	100.	99.2	1
7	Female	34	99.2	101.8	100.	1
8	"	26	98.4	99.2	99.2	2
9	"	38	99.4	100.6	99.6	2
10	"	34	99.	101.	99.6	2
11	Male	23	97.6	100.6	99.6	2
12	"	40	98.	100.	99.4	2
13	"	31	98.8	101.8	100.	3
14	Female	24	98.6	100.9	99.8	2
15	Male	21	99.	101.8	100.	2
16	"	23	98.6	100.	99.	1
17	"	39	98.6	99.	99.	1
18	"	25	98.8	100.	99.5	1
19	"	31	98.2	100.	98.6	1
20	"	36	100.	102.4	101.	3
Average temperature.....			98.77	100.10	99.18	1st stage.
" "			98.55	100.58	99.60	2nd stage.
" "			99.44	102 12	100.40	3d stage.
" "			98.920	100.933	99.726	All stages.

Fox says: [1] "The temperature of the first stage is most important in relation to diagnosis. These more markedly febrile cases necessarily attract attention, but it is important to remember that a very slight degree of fever, often barely reaching 100° Fahr., and sometimes scarcely exceeding 99°, may for some time precede any discoverable physical signs; and further, that such pyrexia may only occur during a short period in the post-meridianal hours. The importance of frequent observations in such cases cannot, therefore, be overrated.

[1] "Diseases of the Lungs and Pleura," by Wilson Fox.

"I append a series taken by my friend Dr. Nash, of Notting Hill, on a young lady with slight dulness under one clavicle and in the supra-spinous fossa of the opposite side, who had had hæmoptysis four months previously, and in whom there was hereditary predisposition. She had previously been pronounced after *limited*[1] thermometric observation to be free from fever:

9 A.M.	3 P.M.	9 P.M.
98.2	99.8	99.2
99	99.4	98.6
98.8	99.4	98.4
99.4	99.4	98.8
98.8	99.2	98.6"
Average 9 A.M.	3 P.M.	9 P.M.
Temperature 98.84	99.44	98.72

The following table shows the normal relation of weight, vital capacity of the lungs, chest circumference and expansion to height:

Height.	Weight.[2]	Vital Capacity of the Lungs.		Extreme Circumference of the Chest.		Expansion of the Chest.[7]	
Inches.	Lbs.	[3] Male. Cubic inch.	[4] Female. Cubic inch.	[5] Male. Inches.	[6] Female. Inches.	Male. Inches.	Female. Inches.
60	114.5	166	136	33.00	31.00	2.50	2.00
61	119.9	174	144	34.06	32.06	2.71	2.21
62	126.1	182	152	35.13	33.13	2.92	2.42
63	132.9	190	160	35.70	33.70	3.13	2.63
64	138.1	198	168	36.26	34.56	3.34	2.84
65	142.1	206	176	36.83	34.83	3.55	3.05
66	144.6	214	184	37.50	35.50	3.76	3.26
67	148.4	222	192	38.16	36.16	3.97	3.47
68	155.2	230	200	38.53	36.53	4.18	3.68
69	162.1	238	208	39.10	37.10	4.39	3.89
70	168.6	246	216	39.66	37.66	4.60	4.10
71	174.2	254	224	40.23	38.23	4.81	4.31
72	179.6	262	232	40.80	38.80	5.02	4.52

[1] Italics are mine.—G. A. E.
[2] Cyclopædia of Anatomy and Physiology.
[3] Medico-Chirurgical Soc. Transactions, 1846.
[4] A thor's computation.
[5] Allen, Med. Exam. for Life Insurance, N. Y., 1872.
[6] Author s computation.
[7] Author's computation.

(*To be Continued.*)

HYPERTROPHIC HEPATIC CIRRHOSIS, WITH MARKED ICTERUS—A CLINICAL REPORT OF A CASE IN THE WARDS OF THE LONG ISLAND COLLEGE HOSPITAL.

BY FRANK TERRY BROOKS, A.B., M.D.

(To which was awarded the Dudley Medal for 1893.)

(Continued from October.)

Thus the constitutional evidences of anæmia which the patient presents are sustained by the experimental determination of the condition of her bood vascular system. The lowered standard of health and the congested lung account for her statement that she takes cold upon slightest exposure.

The continued icterus is also a pressure symptom. The force with which the bile passes through the biliary passages is almost negative, and is due to the vis-a-tergo of the continued secretion by the parenchymatous hepatic elements, assisted by the rhythmical action of the diaphragm in respiration. Quum ea ita sint, it naturally follows that pressure as caused by the increased stroma of the organ offers a sufficient obstruction to induce an accumulation of bile in the liver. This is absorbed by the lymphatics only to reach the general circulation by the thoracic duct, whence cholæmia, jaundice. It is probable also that more or less is directly absorbed by the blood-vessels of the liver. The exact pathological conditions causing this pressure is described under the section, Anatomical Changes. The bile is poor in quality and insufficient in amount both on account of the crippled liver, as above detailed, and also in this later stage from the general failure of the vital powers.

On auscultation of the right hypochondrium, at times a grating sound may be heard, synchronous with the respiratory movements, due, not to pleurisy, but to bands of false membrane, secondary hepatitis (Jackson).

The splenic enlargement is due both to venous engorgement (the splenic vein emptying into the portal) and to the other causes as assigned for the cirrhosis. The absence of hydro-peritonæum in my patient's case is most interesting. It is explained by Hayem, who states that the more regular distribution of the new-formed connective tissue, while modifyng the circulation in the liver and producing numberless capillary dilatations, does not offer the same

impassible barrier to the portal-blood as does the irregular contraction in the "cirrhose vulgaire."

Prognosis.— 'La durée de la cirrhose biliare est relativement longue (elle peut durer de 7 à 10 ans), la marche est leute. L'étet général reste assez bon pendant plusieurs années," write J. M. Charcot et A. Gombault. Generally speaking, however, I think we may state the *average* duration in these cases to be more than one year, and usually five or six years.

Applying the general rules of practice to my case, calling to mind that this has already existed for, at least, four-and-a-half years,—noting her present condition, seeing as yet no cerebral symptoms, which mark the later stages,—I make the prognosis incurable, and as to the duration I apprehend more danger from the secondary affections than from the initial lesion. Moreover, intercurrent diseases of trivial moment to the well, are liable to result most seriously in one whose vital powers are lowered as are those of this patient. A severe attack of malarial toxæmia, throwing its force upon the already overburdened liver, a sudden cold, determining itself in this viscus, any respiratory, renal, or cardiac disease which would secondarily involve the liver, or another sharp acute disturbance referable to the gastro-intestinal tract would in my judgment terminate the fatal issue. At present her lung symptoms are certainly most significant.

Etiology.—The ætiological factors in the production of hepatic cirrhosis are oftentimes exceedingly obscure. Alcohol is the most pathogenetic, while constitutional diseases of a wasting and debilitating character, such as specific troubles, chronic Bright's tubercular changes, malarial toxæmia, cardiac lesions (cardiac cirrhosis) and even rheumatism, gout, or the exanthemata may lead to this condition.

Biliary calculi have also caused cirrhosis and Poulin cites a case, as induced by a peri-hepatitis, extending inward. Two cases of congenital cirrhosis have been reported.

From my patient's history, we have given :

1. Her attacks of malaria.

2. Her fondness for highly seasoned food,

3. The suggestive fact that her husband is very intemperate, though she herself is "almost" temperate, as she says.

The malarial poison, we well know, has a special destructive action upon the great organs below the diaphragm; the febrile paroxysms causing repeated congestions which lead to catarrh of the bile ducts and the hyperpastic process. Thus the changes in

the chylopoietic system eventuate in general anæmia and blood dyscrasia (malarial cachexia.)

My patient's liver and spleen are enlarged; she is anæmic; her blood we have found to be both reduced and hydræmic.

Alcohol is directly carried to the liver by the portal blood. Here, during its combustion, it causes primary death of more or less of the hepatic cell structures (Weigert), and it also excites by direct contact, a low grade of inflammation in the interlobular spaces; overstimulation of this viscus results, hence, excessive tissue metamorphosis.

After the same manner an excess of highly seasoned foods tend to overstimulation. Overstimulation indicates excess of blood to the part, hyperæmia, active or passive, follows and new cell-growth from blood determination and distorted and misdi-



Fig. 2. Cirrhosis hepatis of Lænnec (ordinary cirrhosis). After Charcot and Gombault. (Low power.)
A—Liver lobules.
B—Sclerosed tissue.
This drawing also shows *the less* intimate relation existing between the stroma aad parenchyma multilobular.

rected nerve-function results. We have then these destructive factors, as agents at work upon the system, and when my patient's vital-resisting power was seriously impaired by the illness of June, 1888, they were able to sweep into full control and hasten the trouble they were already generating—assisted no doubt, by that subtle and often ill-understood abettor, predisposition.

From these premises, therefore, I assign as my conclusions:

Causes.—Predisposing and exciting, highly seasoned foods, malarial toxæmia, alcoholism. Depressed vital resisting-power, as induced by acute illness in June, 1888.

Anatomical Changes.—Pathologically considered, a cirrhosed liver is a chronic inflammatory affection of the capsule of Glisson.

According to a more recent view, the primary change is to be found in a degeneration of the parenchymous cells, while the increased stroma is secondary, due to the extension of the inflammation to the connective tissue elements. Be this as it may, we know that the fibrous tissue, once involved, contracts upon the liver cells and obliterates the interlobular veins. Thus the bile-elaborating cells undergo fatty and granulo-fatty degeneration,

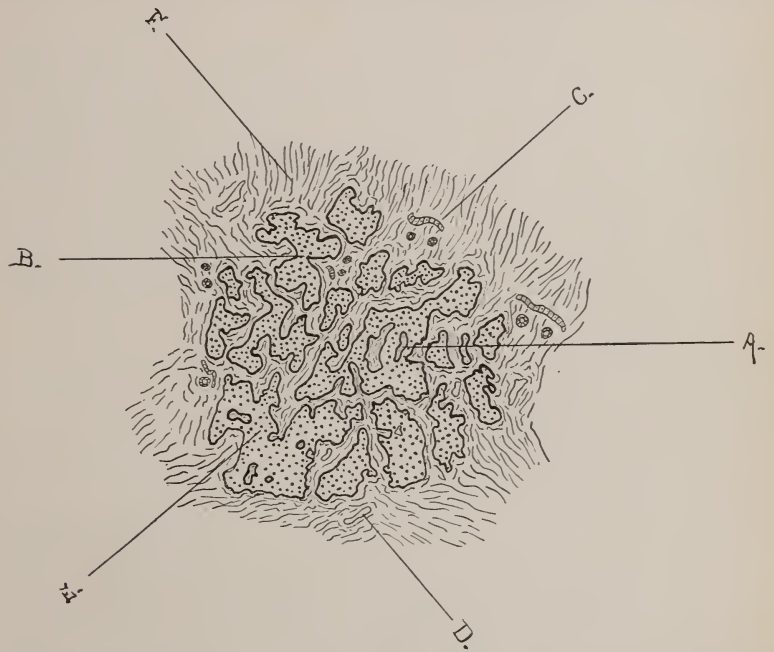


Fig. 3. Hypertrophic hepatic cirrhosis with icterus of French writers, modified from Charcot and Gombault (Low power.)

A—Connective tissue formation developing in the interlobular spaces.

B—Showing pressure effects of new-formed tissue upon hepatic parenchyma (under higher power, fatty and granulo-fatty changes would be evident).

C—Newly formed bile-ducts.

D—Dilated blood-vessels in new tissue.

E—Liver lobules.

F—Hyperplastic tissue.

This drawing also shows the *more* intimate relation existing between the stroma and parenchyma—monolobular.

atrophy, and are destroyed, as well from lack of nutrition as from direct compression.

Macroscopically the capsule of the liver is thickened and opaque, and adhesions often form to the diaphragm, gall-bladder, stomach or abdominal walls. The liver itself is enlarged and firm in consistence; the cut surface is dry, anæmic and nodular. These islands, varying in size in the same organ, are yellowish or

greenish in color (due to bile-pigment and fatty infiltration) and are separated from each other by the newly-formed greyish or pale-rose masses of connective tissue, producing the characteristic "hob-nailed" appearance. I have before me several preparations of hepatic cirrhosis, which I obtained from the autopsy table during my service under Dr. Van Cott.

The microscopical findings are:

(*a*) In the hypertrophic variety:

Increase of interlobular connective tissue, not uniformly distributed, a number of lobules being separated by the fibrous bands (multilobular) which are usually rich in lymphoid and spindle cells.

Vessels form in this new tissue, derived probably from the hepatic artery and, according to Virchow, also from the ramifications of the portal vein.

Fatty infiltration and amyloid degeneration may coëxist. The cells which are left undestroyed usually suffer a compensatory hypertrophy.

(*b*) In the contracted variety:

Differs from (*a*) only in amount and degree of sclerosed tissue, with consequent destruction of more hepatic cells, to be seen in all stages of disintegration.

Corresponding to my diagnosis, I append a description of the microscopical findings which I would expect to obtain in my patient's liver. They would differ in the following particulars from the ordinary cirrhosis, as above described: The new tissue is more uniformly distributed, the individual lobules are penetrated (monolobular), the interlobular markings are less distinct, and the so-called newly formed bile-ducts are especially numerous. The pigmentation is greater; the fatty and amyloid degenerations are more pronounced. On pages 688 and 689 will be found two drawings, showing the microscopical appearance of (*a*) cirrhosis hepatis of Lænnec (ordinary cirrhosis), and (*b*) hypertrophic hepatic cirrhosis of French writers. This latter I would expect to simulate the patient's liver. The microscopical differences are sufficiently explained in the drawings.

The gross findings in this form differ but little from the ordinary cirrhosis.

The enlarged spleen is the seat of a similar general fibrosis, as we should probably also find are all the organs of the body. Charcot and Gombault regard an inflammation of the interlobular bile-ducts as the initial departure from the normal. They found their conclusions upon analogy—the result of the experiments upon the bile-ducts of the lower animals (V. Archives de Physiologie,

1876.) This, however, is not universally accepted, though it is endorsed by a number of authorities, among them being Legg.

Therapeutics.—Cirrhosis hepatis in the early, formative stage, especially when the exciting cause can be promptly removed, may often be cured. A cure by prevention! In the late, chronic stages, all that can be accomplished is to check the progress of the disease, to alleviate the unpleasant symptoms and to improve the general condition. The exact amount of benefit varies with the individual case, but it is impossible to restore to its former condition an organ once structurally changed by disease. My patient was much improved while in the hospital in Dec., '91,–Jan., '92. This was accomplished as well by her improved surroundings and better care as by the therapeutical remedies employed.

Her diet was chiefly milk, a food, which, as we know, provides much nourishment, is easily digested, leaves but little waste and yet by its action as a diuretic assists in the removal of waste products from the system, a highly important function in cirrhosis.

Locally ungt. potass. iodid. ℥i.—ii. ad ℥ i. was applied with considerable massage all over the hepatic region, the patient meanwhile lying in the sun when possible. Much benefit often is seen from this medication. The combined action of the warmth of the sun's rays and the friction exercises a tonic influence upon the liver and opens a more ready avenue for the absorption and penetration of the iodide at once to the diseased organ. (This I believe, despite the statement of Farquharson that "Iodine is not absorbed into the system through the unbroken cuticle of adults.")

Here it exerts its "alterative" action, stimulating the processes of nutrition (Germain Sée) and tending in a way not well understood to restore the normal functions. On the internal admistration of nitro-muriatic and hydrochloric acids, the routine treatment in these cases, I need not comment. The topical application and the mineral acids were continued by the dispensary physician and prescriptions given for the accidental symptoms as they arose.

Thus carbolic acid; bismuth, pepsin and chalk mixture; calomel and ipecac. Sodium phosphate in hot water, fl. ext. hydrastis, with fl. ext. taraxacum, squills, paregoric, sweet spirits nitre, nux vomica. The prescription, however, which seemed to afford relief for the longest period was:

℞	Sodii bromidi		gr v.
	Acidi hydrocyanici dil.		♏ iss.
	Glycerol pepsinie.		♏ i.
	Aq. menth. pip.	ad	℥ i.
Sig. ℥i. p. c.			

When my patient returned to the Hospital in June, '92, it was

the secondary symptoms which require attention, notably her marked dyspnœa, her asthma. For these she was given the usual remedies, varying with the passing conditions.

She was allowed the full ward diet, showing that the gastro-duodeno-hepatic conditions were in a measure improved or at least were passive. (I question, however, if she ate much fatty food.) Since the severe attack in August, Mrs. B. has taken but little medicine.

In looking up the subject of the treatment of cirrhosis in the various writers at home and abroad, I find many suggestions, an indication of itself that there is no specific.

Certain German practitioners, endorsed also by Murchison and later by Stewart, recommend ammonium chloride gr. xx. — xxx., t.i.d. a c. in aq., asserting that it promotes the flow of bile and the excretion of urea, and by diminishing the portal circulation, it both relieves hepatic pain and checks the overgrowth of the connective tissue, this without depression. Rhubarb and sodium carbonate have produced excellent results in many cases. To arrest the growth of the liver, Pepper recommends sol. iodi co., the chlorides of gold and sodium, bichloride of mercury. (It has recently been proven by one of our New York experimenters, that the long continued use of small doses of bichloride of mercury, increases hæmatopoiesis by stimulating the blood elaborating glands.)

Effervescing waters by stimulating absorption and the secretion of gastric juice, and also in ridding the stomach of various gases present through fermentation, are often serviceable for the secondary gastric disturbances. (Leube.) Lavage is highly recommended by Ewald and others, or where this is impossible, as in the present case, for example, O ss.–i. of hot water, to which is added sodium chloride and bicarbonate of soda. Employ twice daily.

Saline laxatives relieve the engorgement by depleting the portal circulation. (Hare.)

Silver nitrate gr. 1-8—1-4 t.i.d. has gained a reputation from clinical experience. Its action is not well explained.

The benefit to be derived from the intraventricular application of electricity is still sub-judice, though recommended by Einhorn, Stockton and others. Generally speaking, secretory stimulants are of more utility in these cases than stomachic tonics. Of the latter tinct. nucis vomicæ ℥ v.-xx. is probably the most useful, for it coördinates more perfectly the digestive process by its action on the nerve centres. (Brunton.)

My patient now is living almost exclusively upon stimulants.

This I regard as unfortunate. With the numerous liquid preparations—both food and stimulants—at our disposal, I see no absolute indication for an existence upon alcohol alone. At least, insist that the stimulant be administered in milk or with other food, thus the alcohol will be diluted and will reach the liver at a slower rate. Briefly, the indications for treatment in this case are:

Exclude fats, starches and sweets; allow lean meats, vegetables (poor in starch), acid fruits, weak alkaline mineral waters. Milk, or better, skimmed milk, is the food par excellence, this to be administered hot, or in lime water, or, according to Roberts, with bicarbonate of soda, as being more antacid. Of the numerous liquid preparations, Chittenden has found "Mosquera's Beef-Meal" to contain the highest percentage—90 per cent.—of nutritive elements. Personally, I have seen good results from "Cibil's Fluid Extract of Beef." Aside from this general statement as to the basis of proper alimentation, we can only follow the professional laconism, "cure the curable, comfort the incurable."

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EDITORIAL.

DR. CHARLES H. SHEPARD AND THE TURKISH BATH.

We presume that most of our readers will be as surprised as we were to learn that the credit of introducing the Turkish bath into the United States is due to Dr. Charles H. Shepard, of this city. This he did in the year 1863, and so popular has it become that during a single year he has given as many as 20,000 baths. On the thirtieth anniversary of the founding of his baths, Dr. Shepard gave a reception to his patrons and patronesses, and the unanimous expression was that the Turkish bath was one of the most important factors in the preservation of their health. The function of the skin as an eliminator of waste material is too little appreciated, and the proper use of the Turkish bath, by which we mean its use under competent medical supervision, will do more to maintain a normal condition of all the organs than all the drugs in the materia medica.

SPEER'S VINEYARD AT PASSAIC.

One of the most remarkable sights we have ever witnessed is the vineyard of Mr. Albert Speer at Passaic. At the invitation of Mr. Speer, a number of physicians of Brooklyn and New York visited this vineyard in the month of September. There were at

the time no less than 300 tons of Concord and Oporto grapes on the vines. To inspect these, the party was driven through more than two miles of carriage road within the vineyard grounds. The manner of making the wines was examined, and the whole process was explained by Mr. Speer. In the wine vaults were more than 37,000 gallons of wine ready for bottling. It was the unanimous expression of all the visitors that if cleanliness and skill count for anything in wine-making, Mr. Speer's wines cannot be surpassed in purity.

SMALL-POX IN BROOKLYN.

We think that few of our physicians realize how prevalent small-pox is, and has been for some time. The records of the Health Department show that the number of reported cases has been as follows;

January, 49; February, 37: March, 44; April, 42; May, 29; June, 17; July, 46; August, 21; September, 16. In 1888 there were 374 cases, the last case in that year occuring October 2. From that time until January 27, 1892, there was no small-pox in the city. During 1892, there were 184 cases. The figures should certainly direct the attention of physicians to the necessity of advising their patients to be vaccinated at the earliest opportunity.

AMERICAN PUBLIC HEALTH ASSOCIATION.

This association held its twenty-first annual meeting at Chicago October 9th to 14th. Through an arrangement entered into by the World's Congress Auxiliary and the Association, this meeting constituted an International Congress of Public Health. Membership in the Congress was open without fee to all persons interested in public health, who register. The meeting was one of great value and interest.

OBITUARY.

EDWARD F. MORDOUGH.

Dr. Mordough died on the 7th of August. He was graduated at the Long Island City Hospital in 1879. He served as interne in that institution and also as ambulance surgeon. Subsequently he began practice in Brooklyn. For nearly two years he has been a sufferer from pulmonary phthsis.

PROCEEDINGS OF SOCIETIES.

BROOKLYN SURGICAL SOCIETY.

Seventy-eighth regular meeting, November 3, 1892, Dr. Terry acting Chairman.

SCIENTIFIC BUSINESS.

Paper by Dr. Jarvis S. Wight, "An Attempt to Make a Radical Cure in Three Cases of Hernia."

Seventy-ninth regular meeting, November 17, 1892.

PRESENTATION OF CASES—ANGIOMA OF CHEEK.

Dr. Pilcher:—In July, 1887, five and a quarter years ago, this child, Mary Jane Weatherwax, then six weeks old, was referred to me by Dr. —— on account of an angioma of the right cheek and temple, which had increased rapidly since birth, at which time simply a ringworm-like attrition of the temple opposite the angle of the orbit was to be seen. The visible cutaneous nævoid degeneration when first seen by me was extended over an area of about the size of a silver half-dollar piece. Its greatest point of intensity was opposite the angle of the orbit, extending into the temple, involving a small bit of the upper eyelid, the outer half of the lower eyelid, and the upper part of the cheek. The whole thickness of the cheek was involved in the growth, so that the whole right buccal area showed the same nævoid change.

Linear scarifications with galvano-caustic knife over temple and eyelids, and injections of persulphate iron into the cheek first resorted to. The injections of the persulphate, in quantities of ten m. each time, were made four times in all at various points during a period of five months. Considerable inflammatory induration, some contraction at points in the tumor, and upon two occasions some sloughing resulted from these injections, but notwithstanding this, a general increase in the volume of the tumor had taken place, especially upward into the temporal region. The child being now six months of age, after having made a preliminary liga-

tion of the right common carotid artery, I cut down upon the temporal prolongation of the tumor, and dissected it out as far down as to a point below the level of the inferior orbital edge. The enucleated part I then cut away, controlling hæmorrhage by the thermo-cautery and iodoform gauze tampons. The neck wound healed by primary union, and the temporal wound by granulation without complication. Meanwhile an increasing invasion of the eyelids was taking place. I then resorted to multiple deep punctures, with a galvano-cautery point, into the periphery of the growth in the cheek and eyelids, and passed a thread deeply under the base of the outer half of the lower eyelid, and tied it firmly. The central portion of the mass was subjected to electrolysis. Great improvement followed these measures. The growth of the tumor was arrested, and rapid atrophy of its substance followed. At the end of nine months the cheek and buccal mucous membrane were normally pale; there was no swelling of its substance upon crying; irrational contraction had produced a slight ectropion of the lower lid. This ectropion was relieved after a year or more by autoplasty after the method of Wolfe. The child now presents simply the scars that remain from the operative attacks to which she has been subjected. There are no signs of any recurrence, and she may be considered as permanently cured.

DISCUSSION.

Dr. Wight:—The results of the procedures employed have been eminently successful and wisely conducted. These are among the most difficult and dangerous cases with which we have to deal, and can be, for the most part, successfully dealt with when they are more or less external to the scalp. I had one case which involved the bone and the inside of the head. In this I ligated in various ways, ligated parts of the growth from time to time, and after ligation and strangulation I injected. I seemed on the very point of success, when one day I was about to perform what seemed to me to be the final step in the work, and was getting ready to make another injection, when my patient had fatal syncope, from which I could not arouse him by any means. So far as I am able to judge, in that case the failure was largely due to the excessive use of tobacco. He had been an inveterate user of tobacco, and while in the hospital more so than usual. I am well aware of the dangers of this course, and question whether I shall often repeat it, but it seemed to be so urgent in this case, no other way being opened, that with the consent of my colleagues, I performed these successive injections. I remem-

ber well a young lady who had one of these growths on the right side of her cheek, next to the angle of the lips. It was quite large, and deformed her appearance very much. Ligation, incision or strangulation of the growth would have been impossible in this case. She had been operated upon in Copenhagen in various ways, but, fortunately, not to disfigure her. In this case I made two injections at one sitting, and the whole thing cleared up and was no larger than a pimple.

Dr. Burge:—I have only to say that I am exceedingly pleased with the evidently very excellent results in an operation upon one of the class of cases that Dr. Wight has truly characterized as among the very difficult ones.

Dr. Pilcher:—I want to make a criticism with regard to this case, which perhaps has occurred to the other members of the Society present, and I can make it freely, as I was the operator, and that is as to ligation of the common carotid. I think it was an eminently proper thing to do a preliminary ligation, but I wish to criticise the point at which it was applied. As I have realized since, in thinking over the case, the collateral circulation through the internal carotid was not cut off. But if I had applied my ligation to both trunks the internal and external carotid, I should have had much better control over the vascular supply of the disease above. I think that in such cases the operation to do is to apply the ligature to both trunks, just above their bifurcation.

COMMINUTED FRACTURE OF THE HUMERUS.

A case of comminuted fracture of the humerus with non-union. Union secured by exposing the fragments and fixing them by means of wire.

Dr. Pilcher:—This patient, a man of about thirty years of age, was admitted to the Methodist-Episcopal Hospital in July last, having sustained a comminuted fracture of the shaft of the humerus.

At the end of ten weeks no apparent attempt at union had taken place, and there persisted considerable deformity at the point of injury. I accordingly submitted him to operation for the purpose of rectifying the position of the fragments and wiring them together for retention purposes.

The operation was done in the usual manner by a longitudinal incision on the outer side of the arm. When the fragments were exposed it was found there was a loose fragment which had been tilted transversely, and was acting as a foreign body between the

two main fragments of the humerus. The loose fragment was removed, and the other fragments with a little chiseling were brought into somewhat of a dove-tail shape, so that they overlapped and were held together by two wires upon either side. In this way the bone was, of course, shortened somewhat. The man having no rise of temperature, after a few days was sent home, with instruction to return for examination.

Eight weeks have elapsed since the operation; the primary dressing is still in place, and I desire to submit him now to the inspection of the Society. [The dressings were then removed. Firm union of the fragments was found to have taken place, but still not sufficiently absolute to permit slight bending on the application of considerable force. A sinus, from which a limited amount of purulent discharge had taken place, was present, leading down to the sutures.]

Dr. Pilcher then continued: A similar case has been under my my treatment during the past year, in which I operated twice for its relief, the first operation being similar to the one that I have detailed in connection with this case, except that there was no such mass of loose bone between the two fragments, as in this case. In that case I made a serration, bringing the one fragment into the other, and holding them together by wires. The operation was unsuccessful. There was no attempt at union following it, and unfortunately, as a part of the original operation, the musculo-spiral nerve was injured. After some time, finding the failure of the first attempt to bring about union of the bone, I subjected him to a second operation, at which time also I found the ends of the musculo-spiral nerve and attempted to bring them together and suture them. This was only in a measure successful. I did not make a resection of the shaft of the humerus, which I believe now would have been best to do in that case.

I contented myself with bringing the ends together with some tension, and holding them with sutures, while the ends of the fragments of bone I held together by a plate of steel about three inches in length and about three-quarters of an inch in width, each end perforated by two screw holes, so that each end was fastened to its respective fragment by two screws which passed through the entire shaft of the humerus after the method of White, of Philadelphia. At the end of two months, the man having borne well the presence of this steel plate holding the fragments of the humerus together, I removed the plate, but there was not as much consolidation present then as in this case we have examined to-night. Nor was there any return of power in the

muscles that were supplied by the musculo-spiral nerve. I continued the immobilization of the part because there was a little stiffening of it beginning to develop. Some four or five months have now passed since the last operation; it has been examined from time to time, and the stiffening has been increasing more and more, until finally there is perfect and absolute repair of the fracture.

I speak of the case in connection with the case now presented to show the possibilities of hope in cases of delayed or non-union of fractures of the shaft of the humerus, even in conditions that seem apparently hopeless.

Dr. Wood:—I would like to ask Dr. Pilcher if he hopes for a return of the functions of the musculo-spiral nerve in the second case.

Dr. Pilcher:—I do not expect it at this stage.

Dr. Wight:—I have operated on a large number of cases of this class by simple incision, by simple excision of the ends without wiring and have never failed to get, within a few weeks, bony union, and I don't know that I shall resort to wiring until I fail with so simple a procedure as that.

Dr. Wood:—I can mention a case that I was able to follow out to a most satisfactory termination, where there was delayed union and paralysis of the musculo-spiral nerve. It was in May, 1890, that I first saw him, with a recent fracture of the humerus about the middle, and a fracture of the forearm. I put up the arm in plaster of paris, immobilizing the shoulder joint, the elbow joint and the wrist. At the end of some eight weeks the dressings were removed, and there was still a rocking at the point of fracture of the humerus. The union in the bones of the forearm was firm, but there was a paralysis of the muscles supplied by the musculo-spiral nerve. After a time the union began to be firmer, but the paralysis did not improve, and after a few months' use of electricity, it was determined to cut down upon this portion of the humerus. The nerve was found imbedded in the callus, and the ends of the nerve were brought out, and in bringing them out the nerve was so far compressed that it broke in two. It was then sutured, the entire wound closed, and the arm immobilized. By six weeks after that, firm union of the bone was present, but the musculo-spiral nerve was unrelieved.

In that condition he left the hospital in December, 1890, having been injured in May of that year. When he left the hospital he had a firm bone, but complete paralysis. Some few months afterwards I met him as a deck hand on a Staten Island ferry-boat,

and found that function of the musculo-spiral nerve had returned.

Dr. Pilcher:—I would like to add that it is evident that in the case now before the Society the wire is an irritant there, and that a fistula has been established, and it will undoubtedly be necessary to expose the wires and remove them, and I shall probably do that at an early day.

Eightieth regular meeting, December 2, 1892, President Lewis in the chair.

SCIENTIFIC BUSINESS.

Dr. Wackerhagen read the paper of the evening, entitled "Accumulations of Pus in the Fallopian Tubes."

PRESENTATION OF CASES.

Dr. Rand:—Three weeks ago Sunday, this young man, while gunning, was shot in the lower part of the left thigh, above and to the outer side of the patella. He walked a mile after the accident happened, and came to my office nine hours later, being referred to me by Dr. George Everson. A probe passed through the opening entered the cavity of the knee-joint, but the ball could not be found. The next morning at St. John's Hospital I enlarged the opening and explored the upper portion of the joint with the finger, but failed to find the ball. I then made a second opening over the lower portion of the joint to the inner side, in which direction the bullet had gone. Upon flexing the limb I found the ball lying just at the inner side of the spine of the tibia, and perfectly movable.

I could not seize it with any forceps I had, but very readily got it out with the aid of a uterine curette. The length of time the ball had been in the joint made it advisable to introduce two short drainage tubes. A saturated solution of boric acid was used for irrigating the joint. The openings in the capsule were closed with cat-gut. Five days later I removed the lower tube; the discharge from the upper tube was then very copious, and seemed like a vitiated synovia. I shortened the tube and left it in five days longer. He was discharged, recovered, three weeks after the operation. The last time I examined it there was no difference in size between it and the other knee. The bullet entered the capsule and coursed along between the patella and the bones of the thigh and leg. I present him here for the purpose of raising this question: In a case of this kind where the bullet is small and

where it has certainly entered the joint, and where search in this way by two incisions results in a failure to discover the ball, the inference then being that it has been imbedded at some point, is it wise to go further and lay the joint open more freely for further exploration? And if so, what would be the preferable method by which to accomplish this end? That was the question that presented itself to my mind at the time of the operation when, after searching for some minutes, I still failed to discover the ball.

Dr. Wackerhagen:—I should advise the plan followed by Dr. Rand. Make a free opening into the joint, and if possible find the ball.

Dr. Lewis:—If you were sure the ball were in the joint.

Dr. Wackerhagen:—If I were reasonably sure that the ball had entered the joint I should open it to any extent.

Dr. Pilcher:—The main question seems to be, supposing that a bullet has entered the joint and that a reasonable search for it has been unsuccessful in securing it, how extensive a search we would be justified in making for it. And as to whether it would be justifiable or best to at once proceed to make the search for it, or wait for the development of symptoms which would indicate unmistakably its presence in the joint. I should be inclined to think that if the bullet was not easily detected, and if there were no evidences of its being an actively irritating substance in the joint, that it would be wiser to wait until symptoms arose indicating the necessity of finding it and removing it. When those symptoms arose it is possible that they might indicate the point towards which search should be directed, and that a more limited division of the structures of the joint would succeed in bringing it to our view better than if without those localizing symptoms we simply, upon general principles, were exploring the joint.

When, however, there were symptoms that made it imperative that this offending body should be detected and removed, I quite agree with Dr. Wackerhagen that any amount of division of tissue that might be required in order to find it would be justifiable and proper, even imperative.

Dr. Lewis:—The question was, without any knowledge of the location of the ball, what would be the best means of gaining access to the joint, what incision, whether by simple lateral incision or by division of the patella, or what?

Dr. Pilcher:—If it is simply a question on general principles as to what incision would give the most unrestricted access to all the recesses of the joint, I have no hesitancy in saying the horseshoe incision above the patella, throwing the patella down as a

flap, will expose every recess of the joint much more perfectly than any other that can be made, and it is an incision which is very easily repaired when you come to put the parts together, attaching the quadruceps again to the upper edge of the patella, and making the suture of the various layers as they come, securing a reunion and function of the parts. As to the possibilities of good function in connection with such an incision, I was much interested in the case of a patient who had what I supposed to be a tubercular affection of the capsule of the joint, affecting its outer side, from which I removed a number of square inches of the capsule of the joint and then stitched the parts together and the patient is walking as easily and as perfectly to-day as though nothing had ever been done to her; perfect motion of the joint, having had no adhesions within the cavity of the joint, notwithstanding a considerable portion of the synovial sac had been excised. I believe this supra-patellar incision to be decidedly superior to the transverse incision through the patella.

Dr. Lewis:—Bullets are so erratic that I should be inclined to the view taken by the last speaker. If not found after making a reasonable search, I should rather wait before exposing the joint thoroughly, for further symptoms. You have the joint open so you can wash it out in that case, and it may be, where there is a great deal of force to the bullet, it has passed right through. I should be inclined to be conservative until there is indication for interference, and then, as the first speaker said, I should open the joint wide.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The regular monthly meeting of the Medical Society of the County of Kings was held at the Society building, 356 Bridge Street, on Tuesday evening September 19, 1893, at eight o'clock, the President, Dr. John C. Shaw, in the chair. There were about fifty members present. The minutes of the June meeting were read and approved, The council reported favorably upon the application of Dr. G. A. Walther and recommended him to membership. The resignation of Dr. James R. Bird was on motion accepted; also the resignation of Dr. E. P. Mallett, he having removed from the city. The President declared the following elected to active membership: Drs. E. W. Wright, J. Thoms, Lewis H. Miller, Harry P. De Forest, Lawrence P. Magilligan. The following applications for membership were then read: Dr. Bertis Rupert Wakeman, residence Long Island College Hospital, L. I. C. H., 1893, proposed by

Dr. J. H. Raymond, indorsed by Dr. G. McNaughton ; Dr. John Phenix, Mornoe Street, University of Vermont, proposed by Dr. Walter B. Chase, indorsed by Dr. William W. Browning; Dr. H. S. Slevin, 155 Bedford Ave., Yale 1892, proposed by Dr. J. C. Rappold, Jr., indorsed by Dr. Myerle.

SCIENTIFIC BUSINESS.

Remarks on "The Teaching of Practical Anatomy," by Dr. William W. Browning ; discussed by Drs. Lewis S. Pilcher, Benjamin F. Westbrook, E. M. Mosher, Evan F. Smith and Dr. Wallace. The second paper of the evening, entitled "Neurotic Eczema", by Dr. George D. Holsten, was read by Dr. Louis Conrad and discussed by Drs. Winfield and Conrad.

There being no further business, on motion the Society then adjourned. DAVID MYERLE, M.D., Secretary.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

RELATION OF THE VAGINAL SECRETIONS TO PUERPERAL FEVER.

(Zeitschr. f. Geburts-Nülfe.) Döderlein examined the secretions in one hundred and ninety-five cases of pregnant women with reference to the presence of pathogenic organisms. In normal secretions only fission fungi were found while bacilli and cocci occurred in great number and variety in those of disease. The percentage of healthy cases was 55.4 per cent., of pathological 44.6 per cent. In primiparæ the proportion of normal cases was a little larger, amounting to about 64 per cent. The author suggests the litmus reaction as a ready means of distinguishing healthy from morbid conditions of the vaginal secretions. Normally the reaction of the vaginal mucus is strongly acid, while in disease it is faintly acid, neutral or alkaline. Experiments show that the acid condition of the vaginal secretions is produced by the innoxious organisms which have their habitat in the healthy

vagina. The author found by culture experiments that these organisms when present in great abundance, were inimical to the growth of the staphylococcus. A similar observation has been made by Bumm.

The author's conclusions for the practical obstetrician are to the effect that in women whose vaginal secretions present the normal litmus reaction, a feverless childbed is assured, provided they escape infection from without.

In morbid conditions of the vaginal secretions pathogenic organisms are liable to be transported into the uterus on the examining finger. Without internal manipulation of any kind during labor the danger of infection is almost nil.

In private practice it is generally impracticable to distinguish between healthy and morbid vaginal secretions. The prophylaxis for every case must be such as to protect against all possible sources of infection.

In hospital clinics the litmus reaction serves to separate the diseased from the normal cases.

Antiseptic irrigation of the vagina for disinfection is not reliable. The irrigating fluid does not penetrate all the folds and recesses of the passages. Steffeck and Döderlein have practiced irrigation combined with thorough friction with the fingers, and lubrication is re-supplied by rubbing the vaginal surfaces with mollin.

For diseased cases they recommend the use of the disinfectant douche during the latter weeks of pregnancy as more satisfactory than attempts at sterilizing the passages during labor. A one per cent solution of lactic acid answers the purpose. The secretions gradually take on a healthy character. The douching is discontinued when the litmus test gives a constant acid reaction.

TREATMENT OF OCCIPITO-POSTERIOR POSITIONS.

Von Weiss, (Volkmann's Sammlung No. 60). According to Hecker the frequency of persistent occipito-posterior positions in head-first labor is five per cent. The relative frequency in first and subsequent labors is as 1 to 2. Kehrer's statistics show 1 case in 79 births, or a little more than one per cent. Bidder's 1 in 187, or .53 per cent. The author's observations correspond with Bidder's. Of 19,000 births 99 occurred in occipito-posterior position. In 89 cases the pelvis was normal, in 10 it was contracted.

Instrumental rotation is generally condemned. Manual correction the author thinks, either impracticable or unnecessary. His treatment consists mainly in preserving the membranes and keeping

the patient on the side toward which the occiput looks. The small proportion of persistent occipito-posterior births in his own and Bidder's experience, whose treatment is the same as his own, he thinks is evidence that normal rotation usually takes place with the aid of posture.

Extraction with forceps after the head has engaged, the author thinks, is rarely justified and only in the presence of positive danger to mother or child. Postural treatment and measures to reinforce the pains generally succeed.

Manual interference is practicable only when the equator of the head is about to pass the vulvar orifice. Rotation of the head into normal position is usually possible at this juncture by upward pressure upon the forehead.

The authors views are summed up in the following conclusions :

1. Persistent occipito-sacral births are difficult labors, especially in primiparæ. They frequently call for operative interference and give rise to severe injuries of the pelvic floor.

2. In the great majority of occipito-posterior positions, normal rotation takes place if the membranes are preserved and the patient is kept during the first stage upon the side which the occiput confronts.

3. The malposition may usually be corrected and the soft parts saved by pressing upward upon the forehead behind the symphysis during a pain while the head lies in the grasp of the introitus.

4. The use of forceps is justifiable only as a last resort.

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MICROORGANISMS IN THE MILK OF HEALTHY LYING-IN WOMEN.

Palleske (Brit. Med. Jour., Dec. 10, '92) concludes as a result of a series of researches, that microörganisms are to be found in the milk of many healthy women—possibly in fifty per cent. These germs belong to the cocci, and solely, as far as Palleske has himself determined, to the variety known as staphylococcus pyogenes albus. It is doubtful whether the germ reaches the mammary gland through the blood current, or enters the ducts from without. It is certain that the staphylococcus may actually abound in milk fresh from the mammary gland without the simultaneous or consequent occurrence of inflamed breast or general symptoms of ever.

SYMPHYSEOTOMY.

(Transactions of the Obstetrical Society of France, Nouv. Arch. D'Obstet, et de Gyn., VIII. Année, No. 41.) Lepage reported a case of symphyseotomy for bony pelvic tumor. The neoplasm

was situated at the brim and was somewhat larger than the fist. Labor was induced at the eighth month. The tumor could not be pushed out of the excavation. Attempts to extract by forceps failed. On the advice of Pinard the symphysis was opened and a living child easily delivered with forceps—both operation and recovery were uncomplicated.

Queirel reported a successful operation. The pubic separation was 6 cm ; the patient was up on the fifteenth day.

Letellier presented the following account of a delivery under pubic section. Primipara with generally contracted pelvis, near term. Diagonal conjugate 10 3-4 cm. Symphyseotomy. Troublesome hæmorrhage from an artery as large as the radial, not controlled for three quarters of an hour. Introitus torn anteriorly and posteriorly. Bladder and ureter injured. Vaginal wound sutured. Death in three hours from the effect of hæmorrhage in spite of all effort at resuscitation. A marked relaxation of the sacro-iliac joint was found post mortem. The pubic separation had reached 10 cm. The method of operating and the failure to control the hæmorrhage were severely criticized by Varnier. The bleeding should have been promptly stopped by compression or by ligature.

Maygrier related a fatal case in which the operation was done for a large ischio-pubic tumor. Cæsarean section was contra-indicated owing to the exhausted condition of the mother. Some difficulty was experienced in finding the articulation. Hand and cord prolapsed. Extraction by forceps. Pubic separation 6 cm. Vagina lacerated anteriorly. The pubic wound healed promptly, but the patient died suddenly on the twenty-first day from embolism. The tumor proved to be a fibroid springing from the periosteum. The symphysis had made no attempt at union. The case was not a proper one for symphyseotomy, but should have been delivered by craniotomy.

Budin referred to a case in which the operation was done for generally contracted pelvis. The diagonal conjugate measured 9 cm. Active hæmorrhage occurred from the retro-pubic vessels. Recovery, however, was rapid and complete.

Varnier observed that Tarnier's statistics of premature labor showed a death rate of 18 per cent. In Leopold's clinic the mortality in version was 26 per cent., 1880 to 1887; 31.6 per cent., 1887 to 1892. Braun's mortality was 29.3 per cent, '84 to '87. Pinard's statistics showed a death rate of 27 per cent. after high forceps operations. In two large French clinics the mortality after high forceps in contracted pelvis was 50 per cent. The death rate of

symphyseotomy in the first year of its apprenticeship was 13 per cent.

Fochier had done symphyseotomy successfully. He did not think the operation a safe one for the general practitioner. Failures and difficulties should be accurately reported. The dangers of purulent infection, especially to the integrity of the pelvic joints, should not be lost sight of. In the presence of sepsis one should hesitate to open new wounds.

Pinard reported nineteen symphyseotomies done at his hospital, thirteen by himself. All the women were saved and all the children delivered alive. Thirteen of the latter were still living. He advocated full separation of the pubic bones before bringing down the head. All the joint structures should be divided. He had not observed vulva or vaginal lacerations. The ultimate results had been perfect. All the women had resumed their occupations, many of them laborious. His total experience thus far was twenty-one operations with a saving of twenty-one mothers and nineteen children. These women had previously had thirty-three pregnancies with two living children. Pinard thinks it easier to open a pelvis than a trachea.

Bar expressed surprise that Pinard had found occasion to do nineteen symphyseotomies in 1,030 confinements, while he (Bar) had discovered no necessity for it in more than 2,000 labors.

Budin stood ready to do symphyseotomy but was not prepared to renounce premature labor, forceps and version. He thought pubic section particularly adapted to generally contracted pelves. Many practitioners, he believed, however, will still give preference to its alternatives.

NEW BOOKS AND BOOK NOTICES.

THE ANATOMY AND SURGICAL TREATMENT OF HERNIA. By Henry O. Marcy, A.M., M.D., LL.D., of Boston. 4to. Pp. 421. New York: D. Appleton & Co.

This is a large tome of 421 pages, with sixty-six illustrations and several full-paged lithographs, divided into twenty-seven chapters. The work opens with a dedication to Sir Joseph Lister, which is a well deserved tribute to the work of the great master, numerous encomiums of Sir Astley Cooper, whose great work in this department is well-known and greatly appreciated, and ends with an apropos quotation from Sir Spencer Wells. To the student of the history of medicine, much of the matter between its pages will be of great interest, and if one were to review the book from the standpoint of such,

much would present itself in the humerous and ponderous quotations from the writings of these revered and long since departed teachers of our art and science. It is exceedingly doubtful if, in the practical mind of the surgeon of the present day who reads this book, much room will be spared to even remember the names of the eminent authors so extensively quoted.

The opening chapter of the book is devoted to the consideration of hernia, in its relation to age, occupation, etc. This is followed by other chapters, which take up the anatomy of the parts, in which there is nothing new save the introduction of coined expressions, such as the 'coxal bone," "pubian," and "i fra-pudian," etc. The spelling of proper names, of which there are several instances, may be due to careless proof-reading. To prefix the name of a French surgeon with "Mr." and that of an English surgeon with "Dr." are scarcely excusable lapses from accepted custom and good form.

With such an evident admiration of the work and close study of methods employed by the ancient worthies quoted, one is not surprised to find our author following their technique so closely. One is reminded of this by the list of instruments said to be required for an operation for strangulated hernia, in which the almost obsolete hernia knife of Cooper, and the groove director are given a prominent place, together with a tenaculum forceps; whatever place the latter may fil in this operation it is difficult to conceive. One may do the operation it is true, with a simple scalpel in case of necessity, as suggested by the author, but a pair of retractors would certainly be a convenience, and a number of pairs of hemostatic forceps something more than a luxury. The desirability of providing the former is ignored, and the latter barely touched upon in making formal provision for the operation of herniotomy.

In the consideration of the operation itself too much respect is paid to the manipulative technique of ancient times, and too little appreciation shown for modern methods. As an exemplification of this it is to be noted, the recommendation after opening the sac, to pass the finger to the ring, and after carrying the "probe pointed bistoury on the finger flat-wise through the structure, the latter is avoided by turning the edge of the knife against it." The method here described is as much behind that which recognizes the necessity for making any incision when practicable, under the guidance of the eye, as it is in advance of the method employed by M. Armaud as detailed in an "illustrative case" from that surgeon's practice a few pages further on. The operator in question describes how, after he had made a longitudinal incision in a case of hernia, in which the intestine "was not altered by gangrene," he introduced the bistoury,"and cut the intestine, sac and ring at a single stroke!" The author's apology for introducing this case seems to be a desire to furnish "a most graphic picture of surgical operations as performed at this early period." In this he has certainly succeeded, but the lesson to be drawn therefrom is somewhat obscured by the next sentence, which states that "they certainly evince a skill, boldness and wisdom worthy of commendation in any age!" The tragic fate of Armaud's patient at the hands of a "boy," who attempted to imitate his master's bold method of making an artificial anus, is related in these words: "He took a probe" and "cruelly pierced the intestine through and through, as was found in the autopsy."

Chapter XXIII. surpasses in interest and value all others in the book. In it the author discusses the history of the introduction of animal suture and its place in surgery, especially when buried in the tissues. And herein lies

the gist of the material contributed by Dr. Marcy himself to the literature of the cure of hernia by operation. For several years past he has promulgated, through various channels, the views and advocated the methods so carefully brought out and described in this chapter. There can be no question as to the advantages of the suture which he recommends, as well as the material of which it is composed (kangaroo-tendon), over catgut as ordinarily prepared and employed. Nothing but commendation can be expressed for the efforts which he has made to introduce a material which shall be trustwortny beyond the period during which an ordinary strand of catgut will hold in the tissues. Equally sound are his views upon aseptic and antiseptic wound treatment in Chapter xxiv.

It is a matter of some surprise that the author should not consider it worth while to devote a few words to the consideration of the subject of pro-peritoneal hernia, in view of the space which he gives to hernia of the bladder, as well as of the ovary. The operation of Postempski, for strangulated diaphragmatic hernia, as well as the operation for the radical cure of inguinal hernia introduced by Kocher, are also conspicuous by their absence.

One is led to suppose that Dr. Marcy, on behalf of his own operation, had in view a prime object, the enclosing of the spermatic cord "within a canal restored to its normal size, length and obliquity." We have yet to be convinced that a failure, in any of these respects, on the part of the canal, is a primary cause of hernia. It is the general belief, and this is strengthened by Dr. Marcy's own compilation of the views held by anatomists and surgeons for many years, that the predisposing causes of hernia are to be found in fœtal conditions referable to the peritoneal pouch which descends before the testes. Therefore, the prime object should be to bring about obliteration of the sac and the depressed or funnel-shaped pouch which represents the initial stage of the hernia.

The illustrations from Cooper and Scarpa are reproduced as well as one could expect under the circumstances. The most successful reproductions, however, are the colored lithographs from Bourgery. The three original lithographic plates are quite inferior, compared to those which are copied. The six wood cuts taken from Gray are well rendered; several of the others are not up to the standard.

The use of such terms as "sacated factorage," as well as many others which could be mentioned, is peculiar, to say the least.

In speaking of operative procedures designed to get rid of the cord, as far as possible from the canal, without actually castrating the patient, the author asserts that such methods formed a part of his early experiments, and were given up. A large number of surgeons of the present day employ methods which have this for their object, and with a measure of success which encourages the belief that we must look in this direction for an ideal operation for the radical cure of hernia.

It may be said in passing, that the modification of Bassinni's method by Postempski, consisting of making a new canal for the cord, and the latter being covered by skin and superficial fascia and dislocated, as it were, from its original position, is attributed to Halstead, of Baltimore.

Finally, it may be said that a great deal of labor has been expended upon this book, and that commercially speaking it deserves a commensurate success. One cannot help thinking, however, that such a large, pretentious and expensive volume should represent a greater amount of original work.

The mechanical execution of the letterpress is a beautiful expression of the conscientious care for which the publishers have so justly earned an international reputation. GEORGE RYERSON FOWLER.

TEXT-BOOK OF THE THEORY AND PRACTICE OF MEDICINE BY AMERICAN TEACHERS. Edited by William Pepper, M.D., L.L.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine, University of Pennsylvania. Vol. I. Illustrated. Philadelphia: W. B. Saunders, 1893.

This, the second system of medicine by Dr. Pepper, is limited in its authorship to American teachers. The writers in the present volume are: Drs. Billings (Philadelphia), Delafield (New York), Pepper (Philadelphia), Fitz (Boston), Holland (Philadelphia), Janeway (New York), Lyman (Chicago), Osler (Baltimore), Gilman Thompson (New York), Welch (Baltimore), Whittaker (Cincinnati), Wilson (Philadelphia), Wood (Philadelphia).

To these thirteen authors are assigned forty-five subjects for the present volume.

Their writings are so well known that the mere mention of the names is sufficient to show the excellence of the work.

The few illustrations are of a high degree of accuracy and art.

The work is a fitting illustration of the best "American Medicine."

HENRY CONKLING.

DISEASES OF THE LUNGS, HEART, AND KIDNEYS. By N. S. Davis, Jr., A.M., M.D., Professor of the Principles and Practice of Medicine, Chicago Medical College; Physician to Mercy Hospital, etc. Philadelphia: F. A. Davis & Co., 1892.

These three subjects are treated of in a skillful way, and furnish valuable information given in an interesting manner. The book is interesting and valuable because it in no way is a mere compilation but is written from the standpoint of personal experience. The author gives his own statistics and his method of treatment. The line of investigation of the nature and symptoms of disease is from clinical study.

It is no misstatement of facts to say that works such as this are rare, and are therefore the more valuable. From the very nature of their make-up, they differ from other works. One might read books on medicine proper in a continuous series and find in every case, where compilation was the nature of the volume, the same statement again and again repeated. Such books never bear the stamp of a personality that is original. But a book like the present differs from the majority because its contents are not taken from other works, historical or otherwise.

To the clinical student of scientific medicine it is very welcome, because it shows the methods of the medical studies *of a clinician*. The reader can therefore make comparisons with his own work. An analysis of a series of cases is always valuable for comparison. In private practice figures do not vary much. In hospital work they do vary. One potent cause of this is the length of time allowed for the treatment of the case. Patients who enter in a moribund condition and die in a few hours always increase the death rate. Dr. Davis gives 4-12 per cent. for his death rate in pneumonia for private and hospital practice. The figures are misleading from their difference, but they show skilful treatment for a dan-

gerous disease. He also states that a large proportion of cases of capillary bronchitis recover, although he regards this a "severe acute disease." We certainly have not seen such results, for in this climate, at least, capillary bronchitis is a very fatal malady.

The different headings, under each disease, are treated in an equally complete manner. Much more space is given to the management of disease than is usual in works on practice.

The author states his belief in incisions in the tissue about the ankles for œdema of chronic parenchymatous nephritis. The amount of urine will increase greatly when drainage is complete. This requires from twenty-four to forty eight hours. After the recovery of renal activity, remedies directed to the kidneys can be used with good results. This paragraph, found on page 311, is a valuable one, because it emphasizes what is frequently forgotten in chronic renal disease, that relief to that organ by other ways of excretion will, in the majority of cases, do more for the kidneys than remedies primarily directed to it.

The work is of superior excellence, and the author is to be congratulated on the publication of such a volume.

HENRY CONKLING.

DISEASES OF THE SKIN, THEIR DESCRIPTION, PATHOLOGY, DIAGNOSIS AND TREATMENT, WITH SPECIAL REFERENCE TO THE SKIN ERUPTIONS OF CHILDREN. By H. Radcliffe Crocker, M.D. (Lond.), Fellow of the Royal College of Physicians, London; Physician for Diseases of the Skin, University College Hospital; Late Physician to the East London Hospital for Children, etc., etc. Second edition. Revised and enlarged, with 92 wood-cuts. Philadelphia: P. Blakiston, Son & Co., 1893.

In accord with all reviewers of this admirable work, we are forced to give no stinted praise to this second edition, improved as it is and enlarged by the addition of nearly 250 pages of well thought out matter and appendices.

Having always recommended in public and private the volume first published as an equal of any work on the subject, to say the least, we now believe the present one to be for teaching purposes certainly the best treatise extant in any language. There may, and perhaps will be, other works on Dermatology which will excel in the way of monographic studies of separate diseases; but as a whole it must stand as an admirable text-book for many years.

The author purposely neglects the subject of Histology of the Skin, calling attention to this lapse in his preface, and recommending other works; he evidently has feared making his treatise too bulky. The other elementary divisions are well treated. The classification is, as is accepted now-a-days, a modification of that of Hebra.

From what has been said above it would be a work of supererogation to point out the individual excellencies of the volume 'brevity (in this instance) being the soul of commendation," it is equally good for the student, the practitioner and the teacher.

S. SHERWELL.

NAPHEY'S MODERN THERAPEUTICS, MEDICAL AND SURGICAL, INCLUDING THE DISEASES OF WOMEN AND CHILDREN. Ninth edition, revised and enlarged. Volume II.: General Surgery, Gynæcology and Obstetrics. By Allen J. Smith, M.D., and J. Aubrey Davis, M.D. Pp. 1112. Price, $6.00. Philadelphia: P. Blakiston & Co.

In the review of a work so well known as "Naphey's Modern Therapeutics," which is an encyclopædia in itself, but little more need be done than to outline the contents. The subjects, which are treated, most of them in such an exhaustive manner as to leave nothing to be desired, are: Anæsthetics, both general and local, treatment of inflammation, preventive and immediate, the treatment of wounds and the complications which arise from them, primary suppurative lesions, such as abscesses, bed-sores, carbuncles, furuncles, felons and ulcers, lesions from heat and cold, diseases of the skin, of the respiratory system, and of the circulatory, digestive, urinary and reproductive systems. In the department of Gynæcological Therapeutics, diseases of the ovaries, uterus, vagina, etc., are very fully considered. In Obstetrical Therapeutics, the disorders of pregnancy, complications, disorders and sequelæ of parturition, diseases of the mammary glands, and of lactation are minutely provided for.

The thoroughness with which the authors have done their work, can in no better way be demonstrated than by taking a specific instance. Under the heading "Carbuncles and Boils" we find no less than twenty-four references, among them such men as Verneuil, Ringer, Paget, Bulkley and Gross. In all, twelve pages are filled with the most approved treatment of these rebellious affections. The same thoroughness is characteristic of the other portions of the volume. In short, it is a veritable "epitome" of modern therapeutics.

FERMENTATION, INFECTION AND IMMUNITY: A NEW THEORY OF THESE PROCESSES. By J. W. McLaughlin, M.D., Austin, Texas. Pp. 240. Price, $2.50. E. Von Boeckmann, Austin, 1892.

The aim and purpose of this essay is to show that the accepted principles of molecular physics, and those of chemistry and biology, if supplemented by legitimate deductions from them, are amply sufficient to account for all the known phenomena of these processes, and also to explain their relationship and intimate nature.

HANDBOOK OF MASSAGE. By Emil Kleen, M.D., Ph.D. Authorized translation from the Swedish by E. M. Hartwell, M.D., Ph.D., Director of Physical Training in the Public Schools of Boston. Pp 315. Price, $2.75. Philadelphia: P. Blakiston, Son & Co., 1892.

The publishers of this volume have been exceedingly wise in presenting it to the American public through a letter from S. Weir Mitchell. They doubtless well know that anything which has his endorsement is sure to be acceptable to Americans, whatever it may be to other nationalities. The translator is also known to all who are informed as to who among our countrymen are doing the best work in physical training With such sponsors as these we are fully prepared to find Kleen's handbook a most excellent one.

Kleen, being a physician, writes from a medical standpoint, and gives to mechano-therapy its proper place among remedial agents. He says it is his desire to set forth the contraindications of massage as well as the indications for it; to show their range and scope without exaggeration, and so far as possible combat the oft-expressed inclination to advance massage to the dignity of an exclusive method of treatment. It is to be regarded as a remedial measure, among many, that is capable of being frequently employed, but which is seldom to be resorted to by itself.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR, NOSE AND THROAT. By eminent American, British, Canadian and Spanish Authors. Edited by Charles H. Burnett, A.M., M.D. Illustrated. Complete in two imperial octavo volumes of about 800 pages each. Price per volume: Cloth, $6.00; Full Sheep, $7.00; Half Russia, $7.50. Philadelphia: J. B. Lippincott Co.

This System is designed by the editor and publishers as a complete treatise: that is to say, that in these two volumes will be found all the learning of the medical world in these special departments. If one desires to know something about the anatomy of the ear, he need not refer to his "Anatomy," but may find it in the System. If, perchance, he wishes to know what is the recognized treatment of acute otitis media, a reference to the System will give him the desired information. In short, a physician, who has the System in his library, need have no other books on the anatomy, physiology, pathology or treatment of the diseases of the nose, throat or ear.

Perhaps no better idea of the wide scope of the System and of the value of the articles can be given than by quoting some of the titles and the names of their respective authors. We select a few at random: "Anatomy and Physiology of the Ear, and Tests of Hearing," by W. S. Bryant; "Examination of Patients, with Instruments Needed Therein and Methods of their Employment," by H. Richards; "Foreign Bodies and Osseous Growths," by Sir W. B. Dalby; "Catarrh of Middle Ear," by S. Sexton; "Otitis Media," by C. H. Burnett; "Inflammation of Mastoid," by C. J. Blake; "Local Therapeutics in Diseases of Nares, etc.," by C. Wagner; "Rhinitis," by F. H. Bosworth; "Grippe," by Carl Seiler; "Foreign Bodies in Nose and Epistaxis," by E. C. Baker.

In the announcement of the second volume we notice the names of Carl Seiler, F. H. Bosworth and L. D. Bulkley.

The System bids fair to be a most valuable addition to our medical literature, both for the specialist and general practitioner.

A TREATISE ON DISEASES OF THE RECTUM, ANUS AND SIGMOID FLEXURE. By Joseph M. Mathews, M.D. With six chromo-lithographs and numerous illustrations. Pp. 537. New York: D. Appleton & Co., 1892.

In this volume will be found the results of fifteen years' experience as a specialist in rectal diseases. The author has introduced several chapters which are new to books on these subjects; as for instance, disease in the sigmoid flexure; the hysterical or nervous rectum; anatomy of the rectum

in relation to the reflexes; antiseptics in rectal surgery; and he describes a new operation for fistula in ano.

The consideration given to the disease of the sigmoid flexure is, perhaps, the most prominent feature of the book. Indeed, so important does he regard these affections that he includes their mention in the title of the volume. From all time this structure has been recognized as the seat of serious pathological changes, but text-books are singularly silent as to how to treat them.

While the illustrations are very helpful in elucidating the text, we think the colors of the chromo-lithographs are hardly true to life.

THE YEAR-BOOK OF TREATMENT FOR 1893. A Critical Review for Practitioners of Medicine and Surgery. A Series of Contributions by Twenty-two Writers. In one 12mo. volume of 500 pages. Cloth, $1.50. Philadelphia: Lea Brothers & Co., 1893.

The present edition is the ninth year of the "Year-Book of Treatment," and is full of most valuable material. Anæsthetics, which was formerly discussed in the article on General Surgery, is treated separately by Dr. Dudley Buxton, the well-known writer on that subject. Public Health and Hygiene has also been considered as sufficiently important to be treated by itself. Among so much that is good it is impossible to select any portion which is of greater interest than another. In view of the possible approach of cholera, there is a considerable part of the book devoted to this subject. In this, not only the medical, but also the sanitary treatment is included.

A SYSTEM OF GENITO-URINARY DISEASES, SYPHILOLOGY AND DERMATOLOGY. By various Authors. Edited by Prince A. Morrow, Clinical Professor of Genito-Urinary Diseases, formerly Lecturer on Dermatology in the University of the City of New York, Surgeon to Charity Hospital, etc., etc. With illustrations. In three volumes. Vol. I.: Genito-Urinary Diseases. New York: D. Appleton & Co., 1893.

This is the first volume of what, when completed, we doubt not, will be one of, if not the best extant, of these agglomerations of monographs, now becoming so common.

The three generic subjects selected (of which this present volume under consideration is the first) blend with each other almost so necessarily and exactly, that it would be difficult to write on any one of the subjects considered without trenching more or less in reference to one or the other of the kindred branches, so that the trinity of connection is obviously apposite.

After careful reading and consideration of the articles by the different authors, it is impossible not to be laudatory in their criticism; the difficulty being, to avoid being extravagantly so, one has to consider how much they, the writers in question, have been helped by the writings of others, less favored than themselves in not being connected with a text-book such as this, but who have fallen "to dumb forgetfulness a prey" in their articles to the hebdomadal and mensual journals.

One would also expect good work on the important and classic disease, and one gets it, as by Cabot, Keyes, Stimson, Wyeth, Fowler, Klotz and others this seems to be most thoroughly done. The editor himself furnishes one

good chapter on a theme usually dwelt upon by quacks, and which would serve as antidotal in some instances, to wit: "Functional Diseases of the Male Sexual Organs." It is a pity that the monograph could not be paper-bound and distributed at a nominal price. There are many other chapters also in the volume, which, for apparent originality and research, deserve commendation, such for instance as that by Bryant on "Functional Disorders of Micturition, and Fuller's "Diagnostic Significance of Pathological Modifications of the Urine." The names and articles, however, selected for notice here are simply those that seemed most striking to us, the whole work being up to (and as stated above) an ordinary standard of excellence. The editor and publisher are both to be congratulated on having put out a good book, and in good form; proof and other errors being, as far as we could see, extremely rare. The volume, though large, over one thousand pages, is not unwieldly —a well compiled book. S. SHERWELL.

THE DISEASES OF THE NERVOUS SYSTEM. By Dr. Ludwig Hirt (Professor in Breslau). Translated by Drs. A. Hoch and F. R. Smith. With an introduction by Prof. Osler. Pp. 683. D. Appleton & Co., 1893.

The recent influx of neurological treatises naturally leads one to meet each new claimant with a sharp query as to the reason for its existence. In the present case an adequate reply is furnished both by the merits of the particular work in question and by the great advantage of occasional translations showing the different thought and knowledge of other nations. However, it is very desirable that works and articles with more originality be chosen for reproduction, and less of the commercial mark about them, despite Osler's claim for the very meritorious arrangement of this book. In general, it is a most excellent treatise. As examples of good handling might be specified, diseases of the facial nerve (17 pages), tabes dorsalis (58 pages), cerebral vascular troubles, and the account of brain tumors. Yet often one cannot dispel the impression that it is a bit passé, that one has read something very like this a few years since The illustrations are pretty numerous (178 in all) and useful, many of them being new, though a majority are, of course, old friends.

He does not mince matters in frequently granting the limits of our knowledge, as well as the hopelessness of treatment in many cases. His therapeutics, while never positively bad, are usually poor, inadequate and old.

It would have been a happy thing for the translators to amend the essentially German and French bibliographies by references to sources more commonly accessible to American readers. WILLIAM BROWNING.

ELEMENTS OF HUMAN PHYSIOLOGY. By Ernest H. Starling, M.D., (London), M.R.C.P. With 100 illustrations. Pp. 437. Price, $2.00. Philadelphia: P. Blakiston, Son & Co., 1892.

While presenting the main facts of physiology that are important for a medical student to know, we do not see that the volume before us is either better or worse than a number of others which have been published.

THE ELECTRO-THERAPEUTICS OF GYNÆCOLOGY. By Augustin H. Goelet, M.D. Two volumes. Pp. 397. Price, 50c. George S. Davis, Detroit, Mich., 1892.

Volume I. treats of electro-physics and electro-physiology, and Volume II., of the application of electricity to the diseases of women.

To make clear the principles of electricity without being so technical as to befog the ordinary reader who has never mastered the science, is so difficult a task that, though many have attempted it, but few have succeeded. Dr. Goelet is one of those who belong to the successful class. Indeed, of the many attempts to describe so much of the principles of electricity as is essential for its application to the treatment of disease, we do not now recall one writer who has made the subject so clear. The instructions, which he gives for the application of these principles, are equally lucid. The price of the volume is ridiculously low, as indeed is the price of the other volumes of "The Physician's Leisure Library."

There are some evidences of lack of sufficient proof-reading, which are, however, readily understood when we remember how busy a man the doctor is with his practice and editorial duties, and we refer to them more that they may be looked out for in the second edition, which we are sure will be soon called for than because we wish to be critical. Thus on page 50, we find "idoform"; on page 59 "ichthiolate"; on 65, "endometrium"; on 168, "menapause" and "calcoreous." There are others, but these are the only ones we noted as we read the volumes.

A HANDBOOK OF LOCAL THERAPUETICS. By Allen, Harte, Harlan and Van Harlingen. Edited by Harrison Allen, M.D. Octavo: 500 pages. Price, $4.00. Philadelphia: P. Blakiston, Son & Co.

The distinguishing characteristic of this handbook is that the local action of remedies is made paramount, and not subordinate, as in other text-books. The book is designed as a guide to treatment, and is arranged after the plan of the United States Pharmacopœia.

We are glad to see that the author adopts the spelling in which the final "e" is dropped in such words as glycerin and gelatin. We wish that medical writers would agree on a uniform plan of spelling such words as antifebrin-antipyrin, phenacetin, etc. Sometimes these are spelled as here, and sometimes a final "e" is added. Whatever is adopted as the proper orthography should be adhered to by medical writers.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By John V. Shoemaker, A.M., M D. Second edition. Revised. In two royal octavo volumes. Volume I., 353 pages: Devoted to Pharmacy, General Pharmacology and Therapeutics and Remedial Agents not Properly Classed with Drugs. Volume II., 680 pages: An Independent Volume upon Drugs. Volume I., in Cloth, $2.50 net; Sheep, $3.25 net. Volume II., in Cloth, $3.50 net; Sheep, $4.50 net. Philadelphia: The F. A. Davis Company.

All that was said of the first edition of these volumes may be repeated of the second. The author has brought it up to date, and few are the remedies which have obtained a hold upon the practitioner of the present day, which are not discussed with sufficient fulness. We prophesy the same popularity for this edition as has been meted out to the first, a popularity which has exhausted it within two years.

MISCELLANEOUS.

INFLUENCE OF ALBINISM UPON THE EYE.

Dr. George M. Gould, 119 South 17th Street, Philadelphia, wishes to gain all the information obtainable as to the condition of the eyes of albinos. Physicians who have had albinotic patients are requested to communicate with him.

MEDICAL EXAMINING AND LICENSING BOARDS.

At a recent meeting of the National Conference of State Medical Examining and Licensing Boards which was held in Milwaukee, resolutions were adopted looking to the enrolling as members of the conference of all the different State organizations. The secretary of the conference is Dr. C. K. Cole, Helena, Montana.

THERAPEUTIC NOTES.

Dr. Prout recommends the following for ear-ache: Boric acid, ℥ ss.; glycerin, ℥ ss.; tincture of opium, ℥ ss.; camphor water, ℥ i. 10 drops to be dropped in the ear.

For heart or respiratory failure during anæsthesia, 1-100—1-50 of a grain of sulphate of strychnia, to be injected hypodermically.

Dr. A. B. Griffiths, Ph.D., F.R.S. (Edin.), F.C.S., reports that he has made experiments by immersing silk threads impregnated with certain germs in "Sanitas" Fluid and "Sanitas" Oil to determine

their germicidal power. In the tests with the fluid his results were as follows:

Bacillus tuberculosis was destroyed in exposure of 5 minutes. *Micrococcus scarlatinae* was destroyed in exposure of 2½ minutes. *Bacillus tyhphosus* was destroyed in exposure of 5½ minutes. *Spirillum choleræ Asiaticæ* was destroyed in exposure of 6 minutes. *Bacillus diphtheriæ* was destroyed in exposure of 4½ minutes. *Bacillus mallei* was destroyed in exposure of 4 minutes.

With the oil he obtained the following results:

Bacillus tuberculosis (microbe of consumption) was destroyed in exposure of 25 seconds. *Micrococcus scarlatinæ* (microbe of scarlet fever) was destroyed in exposure of 10 seconds. *Bacillus typhosus* (microbe of typhoid fever) was destroyed in exposure of 30 seconds. *Spirillum choleræ Asiaticæ* (microbe of cholera) was destroyed in exposure of 43 seconds. *Bacillus diphtheriæ* (microbe of diphtheria) was destroyed in exposure of 28 seconds. *Bacillus mallei* (microbe of glanders) was destroyed in exposure of 25 seconds.

John E. Weeks, M.D., late Instructor in Bacteriology at the New York Post-Graduate School, etc.—see *Medical Record*, August 3, 1889—has determined with respect to the Staphylococcus Pyogenes Aureus and the Typhoid Bacillus that "Sanitas" Oil destroyed their vitality in exposures of 20 seconds. "Sanitas" Crude Liquid destroyed their vitality in exposures of 1 1-2 minutes. "Sanitas" Disinfecting Fluid destroyed their vitality in exposure of 4 minutes. "Sanitas" Disinfecting Fluid of 50 per cent. strength destroyed their vitality in exposures of 10 minutes.

Dr. Griffiith claims to have extracted the toxines from the urine in certain infectious diseases, as scarlet fever, diphtheria, parotitis, measles etc., and claims that these are rendered inert by the "Sanitas" preparations.

ASSOCIATION OF RAILWAY SURGEONS.

The third annual meeting of the New York State Association of Railway Surgeons will be held under the presidency of George Chaffee, M.D., at the New York Academy of Medicine, November 15. A cordial invitation is extended to the profession.

BROOKLYN VITAL STATISTICS FOR JUNE, JULY, AND AUGUST, 1893.

BY J. S. YOUNG, M.D., DEP. COMMISSIONER OF HEALTH.

Population estimated August 1, 1893, 990,891. Births reported, June, 1,335; July, 1,569; August, 1,815. Deaths reported, June, 1,476; July, 2,459; August, 1,955.

Causes of Death.

	June.	July.	Aug.		June.	July.	Aug.
Croup	10	11	18	Small-Pox	0	0	0
Scarlet Fever	32	7	5	Diphtheria	33	30	33
Typhoid Fever	7	10	26	Pneumonia	116	106	88
Whooping Cough	12	15	24	Diarrhœal Diseases	108	820	475
Measles	14	10	6	Cerebro-Spinal Meningitis	8	11	9

Reported Cases.

	June.	July.	Aug.		June.	July.	Aug.
Scarlet Fever	242	117	45	Diphtheria	82	79	23
Typhoid Fever	11	20	31	Small-Pox	17	45	74
Measles	535	149	40				

Death Rate.

	June.	July.	Aug.		June.	July.	Aug.
Brooklyn	20.00	29.12	23.67	London	17.86	23.23	21.82
New York	23.85	22.70	24.57	Paris	21.18	21.58	19.12
Philadelphia	21.60	19.56	26.54	Vienna	28.70	26.36	23.34

THE MEDICAL SOCIETIES' NEW BUILDING.

The movement which was inaugurated in the early summer, looking to the building of a structure for the use of the Medical Societies of the County, is being fostered by the committee which was appointed for that purpose. We look for a report at an early date, outlining the plan by which the profession will respond in as generous a manner as has Dr. C. N. Hoagland.



SIR THEADORE DE MAYERNE.

During the reign of James I. in England, began the state of progressive, but not rapid improvement in the medical art, which during the reign of his successor, culminated in the full lustre of Harvey's career. We have accompanying this, an account of one of the chief luminaries of this period, Wm. Butler, who found a worthy successor in the subject of this sketch. He was born Theadore Turquet de Mayerne, Baron Aulbone of France; and became Sir Theadore Mayerne in England. Mayerne was an improvement on his predecessor, but three years before the grave closed over him in 1665, the College of Physicians had erected in their hall (1662), a statue of the immortal discoverer of the complete circulation of the blood.

Mayerne first saw the light in Geneva, where his father was residing for political reasons in 1573. His collegiate education was received at Heidelberg, after which he went to Montpelier, and took the degree of bachelor in 1596, and of doctor of medicine in 1597.

He settled in Paris, and gave lectures on anatomy, and rose to such celebrity, that, though a Protestant, he was appointed physician to Henry IV., and afterwards to Louis XIII.

Afterwards, the King of England caused his ambassador to invite him to England to serve in the quality of first physician to himself and the queen, and gave him a patent, sealed with the great seal of England. In this office he served the whole royal family with great honor and approbation till the day of his death. He was in succession physician to James I., Charles I., and Charles II., after having served two French monarchs in a similar capacity. He was born in the same year that Caius, who was in succession physician to Edward VI., Mary, and Elizabeth.

Though Mayerne was the most eminent physician of his time, his prescriptions show that his enlightenment was not superior to the prevailing ignorance of the period. He recommended a monthly excess of wine and food as a fine stimulant to the system. His treatise on Gout, written in French and translated into English in 1676, recommends a clumsy and inordinate administration of violent drugs. Calomel he habitually administered in scruple doses. Sugar of lead he mixed largely in his conserves, a form of medicament much used at that time. Pulverized human bones he was very fond of prescribing; and the principal ingredient of his gout-powder was "raspings of a human skull unburied." Another delectable compound was his "Balsam of Bats," strongly recommended as an "unguent" for hypochondriacal cases, which contained adders, bats, sucking-whelps, earth-worms, hog's grease, the marrow of a stag, and the thigh-bone of an ox. The moral effect of this prescription on such patients that knew the ingredients would undoubtedly be good, if the doctor could only keep their confidence.

This man was the author of the first Pharmacopœia published by the London College, and the man whose influence gained the apothecaries their charter, making them a separate guild from the grocers, with whom they were previously associated, under the title of "the Freemen of the Mystery of Grocers and Apothecaries of the City of London."

The first edition of this pharmacopœia, however, left the printer's hand no nearer perfect than similar publications of to-day, though the printer boastfully inserted an advertisement at the end, respecting its freedom from errata; on examination it was found so full of blunders, that the College called in the whole edition, and delivered a fresh impression in its stead. It is but fair, however, to Mayerne's memory to say that the first lot was allowed to go through the press without his immediate supervision. The apothecaries secured their monopoly, by not selling the book, but privately distributing it to the members of the College of Physicians, and of the Apothecaries Company. The work was made, as far as possible, a sealed book to all who were not in the profession by being written in Latin.

He also procured the charter of the Distillers Company, and wrote the "Compleat Distiller," as a standard set of receipts for their trade. As the Latin language could not be used as a means of concealment in this case without sending all the old distillers to school to acquire it, another method was adopted; the numbers, vessels and many other things, were denoted by alchemic characters and single letters, and the articles denoted by numbers only. The key to all this mighty mystery was printed on a loose slip of paper, and delivered to the freemen of the company, under the sanction of an oath not to reveal it. But alas! some pasted this sacred key into their books, least they should mislay it, and executors not taking the pains to abstract this precious piece of paper, the secret came out.

His works were published in London in 1700, and make a large folio, divided into two books.

J. H. H.



JOHN LOCKE.

It will doubtless be a surprise to some to lean that the author of "Essay on the Human Understanding," one of the most philosophic minds which England ever produced, was possessed of a medical degree, and at one time at least practiced the healing art.

No one will accuse Locke of being a fool, although he had passed "forty" before becoming a physician. Having first seen the light in Somersetshire, England, in 1632, it was not until February 6th, 1674, that he received the degree of M.B.; although he was a B.A. of Christ College, Oxford, in 1655, and an A.M. in 1658. Although while a student in college he made satisfactory progress in the usual course of studies of that time, he often said that what he learned was of little use to enlarge and enlighten his mind. The first books which gave him a relish for the philosophical studies which resulted in making his book, already alluded to, a land mark in the history of English literature, and so successfully demolished the barriers which dogmatism had reared against the freedom of the understanding called "*Inate Ia as*," were the writings of DesCartes, whom he always found perspicuous, although he did not always approve of his sentiments.

His successful demonstration of the theory, that "no authorative belief can be found in the mind which has not an origin in experience; and the most extensive and universal beliefs existing are shaped and colored by the varying experience of men and nations entertaining them."

But we did not start to write an analysis of Locke's work, but to claim this great man among the ranks of our brotherhood.

It is true that he was not much of a doctor, or at least his great celebrity as a philosopher has so eclipsed his medical record that biographers have had little to say about it. But enough is known to rank him and Sir James McIntosh, and Arbuthnot, and Goldsmith, and Garth, Armstrong, Blackmore, Akenside, and the subject of the accompanying sketch (Smollett), among those who, though physicians, have probbly prospered more by the pen than by the scalpel.

We find, among the papers of Sir Hans Sloane, a letter from Locke, asking his council in an obscure case of fever. And we conclude that he must have had some skill and professional celebrity, from the fact that Syenham, in his work on accute diseases, gives him the following high encomium: "You know'" says he, "how much my method has been approved of by a person who has examined it to the bottom, and who is our common friend. I mean Mr. John Locke, who, if we consider his genius and penetrating and exact judgment, or the purity of his morals, has scarce any superior and few equals now living.,'

We also find him accompanying and living with Lord Ashley, afterwards Earl of Shaftsbury, in the capacity of medical adviser.

He died on the 28th of September, 1704.

J. H. H.

THE

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

MENSURATION IN THE PHYSICAL DIAGNOSIS OF PULMONARY PHTHISIS.

BY GEORGE A. EVANS, M. D.,

Read before the Medical Society of the County of Kings, June 20, 1893.

(*Continued from page 685.*)

DEFORMITIES OF THE CHEST.

Loomis[1] asserts that a perfectly symmetrical chest is rarely met with even among the healthy. He reports that out of 1,500 persons examined by him, he found only one well-proportioned, symmetrical chest in seven; these deviations, he says, are due, in most instances, to slight curvatures of the spine, either acquired or the result of former diseases of the vertebræ. The writer has

[1] "Physical Diagnosis."

never been able to find a perfectly normal chest absolutely symmetrical, although extensive cyrtometric investigations have been made with that object in view. The best proportioned chests have, as a rule, shown one side to be larger than the other at the level of the fourth rib. Post-mortem investigations show the internal vertical measurement of the left chest to be fully one inch more than on the right side.

Fox,[1] writing on this subject, cites a case reported by Bayle, where a sculptor remarked on the perfect symmetry of the chest of a man who had died of acute tuberculosis.

Out of 197 phthisical subjects examined by Fox with respect to the size of the chest (129 males and 68 females), he found it narrow in 93, and of good or average shape in 104.

The phthisical chest of Engle is described[2] as existing in three forms: the long cylindrical, the paralytic barrel-shaped and the paralytic conical. These forms of phthisical chest, however, Engle says, *Are the result and not the cause of tuberculosis.*[3]

According to Espinay Capo of Madrid:[4] "When the circumference of the thorax at the level of the axilla is less than 27 inches, that at the xiphoid cartilage not more than 31 inches, and the distance between the two but 7 inches, the probability of pulmonary tuberculosis is very great."

Deviations from the form or size of the normal chest may be either general or in part; these deviations are due either to abnormal modifications of the thoracic walls, or to disease of their containing organs.[5]

The chest may be abnormally small, i.e., diminished in all its diameters without being otherwise deformed; in such a case the lungs are likewise too small, either the result of congenital defect, or due to the atrophic emphysema of old age; in the latter event, the supra-clavicular space will be depressed. In abnormally small chests the ribs assume a more oblique direction.

In abnormal general enlargement of the thorax, most frequently due to hypertrophic emphysema, the ribs assume a more horizontal direction, the lower intercostal spaces are widened, the

[1] "Diseases of the Lungs and Pleura."

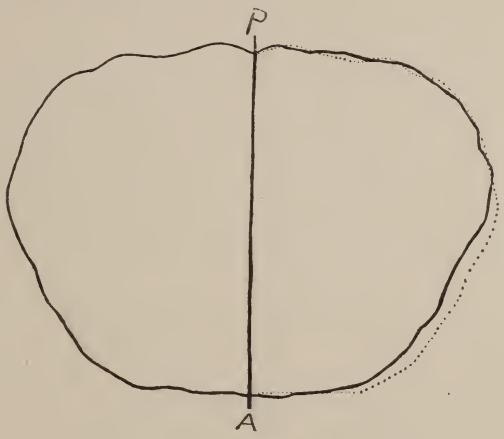
[2] "Diseases of the Lungs and Pleura." Fox, *loc. cit.*

[3] "Italics are mine.—G. A. E.

[4] Trans. of the Congress for the Study of Tuberculosis, Paris, July 25 to 31, 1888.

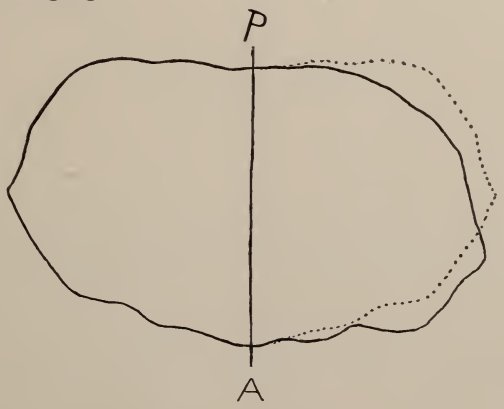
[5] We are indebted to Sir William Jenner for much of our knowledge on this subject. *Vide* Quain's Dictionary of Medicine.

shoulders are raised and the chest is enlarged in all its directions without being otherwise deformed.



Cyrtometer curve of an emphysematous thorax in a male, æt. 74 years. The dotted line shows a slight difference in the size of the right and left sides of the thorax. A—Sternum. P—Spine.

Other deformities of the chest which may be classed as irregular are characterized by a loss of symmetry of its walls, an increase or diminution of one or more of its various diameters and local flattening or bulging.



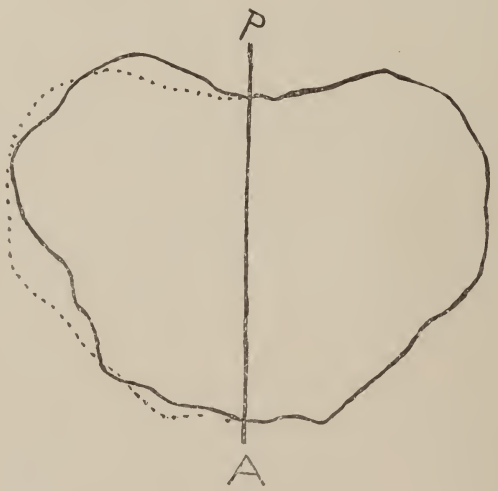
Cyrtometer curve of a twisted left chest, in a male, æt. 31 years, the result of a fall, taken ten years after recovery. The dotted line shows the difference in the shape of the two sides of the thorax. A—Sternum. P—Spine.

Flattening of the chest from before backwards, with a proportionate increase in its transverse diameter, is usually associated

with small lungs; it is a form of chest common to tuberculous subjects. Interference with the free admission of air to the lungs, from one cause or another, and undue flexibility of the ribs are the most frequent causes of this deformity.

In the pigeon-breast of rickets the antero-posterior diameter of the chest is markedly increased; the costal cartilages are very firm, while the ribs are abnormally soft and give way under the combined force of atmospheric tension and inspiratory effort, so that the softest part of the ribs, which is near their sternal ends, is pressed inward, while the sternum is pushed forward by the unyielding costal cartilages.

Depression of a supra-clavicular fossa is the result of atrophic emphysema or of apical consolidation of lung.



Cyrtometer curve of the thorax (at the level of the fourth rib) in tubercular infiltration of the upper and middle lobes of the right lung, in a female, æt. 26 years. The dotted line shows the difference in the size of the right and left sides of the thorax. A—Sternum. P—Spine.

Uniform dilatation of one side of the chest is due to the presence of fluid or air, or of both, in the pleural cavity, and to encephaloid cancer of the lung.

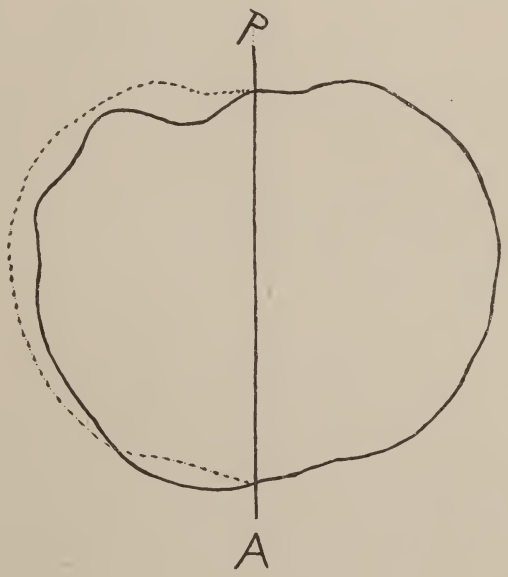
Uniform contraction of one side of the chest results from cirrhosis of the lung, chronic pulmonary phthisis, infiltrating cancer of the lung, chronic interstitial pneumonia, and condensation of lung due to long continued pressure by fluid in the pleural cavity.

Localized dilatation or bulging is due to prominent or knuckled costal cartilages, localized emphysema, fluid in the pleural cavity,

aneurism of the arch of the aorta, or of the innominate artery, enlargement of the heart, tumors, abcess, hydatids, etc.

Localized retractions of the chest are due to chronic inflammatory or congestive conditions of the apex of the lung, excavation of lung substance, chronic thickening of the pleura resulting in contraction followed by retraction of the chest wall, localized cancerous infiltration of lung substance, etc.

Deformity of the thorax is very frequently due to lateral curvature of the spine, as Loomis has stated. In angular curvature of the spine the antero-posterior diameter of the chest is increased in proportion to the amount of destruction of the bodies of the vertebræ.

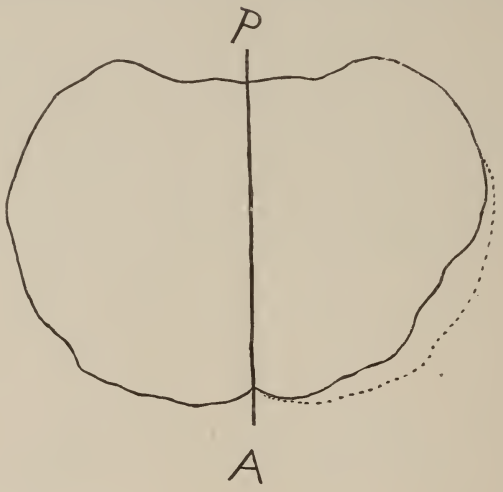


Cyrtometer curve in retraction of the right chest (at the level of the fourth rib) in interstitial pneumonia, in a female, æt. 26 years. The dotted line shows the difference in the size of the two sides of the thorax. A—Sternum. P—Spine.

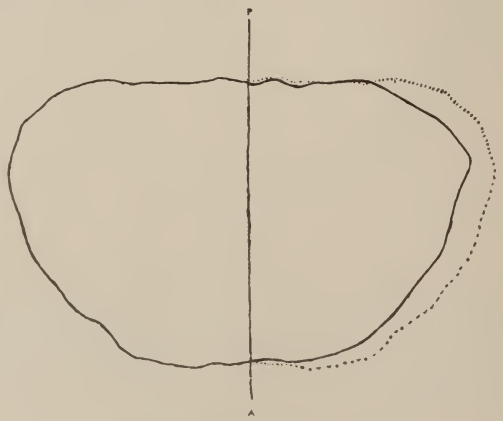
Undue softness of the costal cartilages leads to extreme depression of the lower part of the sternum.

Depression of the lower part of the sternum with a lessened antero-posterior diameter of the chest frequently occurs in children whose costal cartilages are normally quite soft, as a result of complete or partial stenosis of some of the upper air passages; this is due in many instances to the presence of morbid growths in the

vault of the pharynx or nasal passages.[1] Interference with the normal passage of air to the lungs, from any cause, leads to



Cyrtometer curve in retraction of the left thorax (at the level of the nipples) ten years after an attack of pleurisy, in a boy æt. 16 years. The dotted line shows the difference in the size and shape of the thorax on the two sides. A—Sternum. P—Spine.

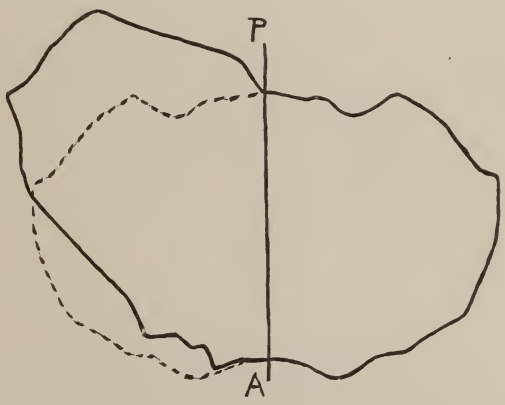


Cyrtometer curve in retraction of left thorax (at the level of the nipples) eight months after an attack of pleurisy, in a male, æt. 37 years.

[1] This deformity was graphically illustrated by a number of photographs which were presented with a paper: "Lymphoid Growths in the Vault of the Pharynx," by Dr. T. R. French, before the Medical Society of the County of Kings, April 18, 1893, and published in the BROOKLYN MEDICAL JOURNAL for June, 1893.

exaggerated action on the part of the respiratory muscles and, under such circumstances, much of their force is exerted on the walls of the chest. Moderate flattening of the upper part of the thorax may be due to what is called physiological atelectasis of the lung, a condition generally associated with anæmia and occurring in young adults of sedentary habits.

Congenital deformities of the thorax are few in number, the most common of these are cleft sternum and defective formation of one or more ribs. Deformity of the chest may also be due to external pressure, caused by habitual malposition of the body, as in the depressed lower sternum of shoemakers, etc.



Lateral Curvature of the Spine.

The object of this paper is to bring into practical relationship the various data of mensuration, as enumerated, with a view to the establishment of a method of procedure that may make the diagnosis of pulmonary phthisis, in its early stage, more certain. The following table, compiled from a record of cases taken from the writer's private practice, is offered to determine to what extent it may be possible to formulate such a method. Although a consideration of the various measurements and conformation of the thorax is important in this connection, much of it may, nevertheless, be dispensed with, and with a view to greater simplicity, this has been done.

Case No.	Height Inches	Weight Lbs.	Extreme Circumference of the Chest. Inches	Expansion of the Chest. Inches.	Vital Capacity of Lungs. Male, Cubic	Vital Capacity of Lungs. Female, inches.	Respiration per minute. No	Pulse per minute. No.	Temperature. 8 to 10 A.M.	Temperature. 1 to 3 P.M.	Temperature. 6 to 8 P.M.	Age. Years.	Disease.
1	67.	128.5	2[illegible]	2.	[illegible]		35	132	101	104	102.4	20	Chronic Pulmonary Phthisis, third stage.
2	61.	98.	27.	2.		98	18	90	98.4	99.2	99.2	26	" " "
3	71.5	99.5	27.5	2.		60	20	120	99.4	100.6	99.6	38	" " "
4	66.	121.	28.5	3.		80	24	112	99	101	99.8	34	" " "
5	60.5	105.5	29.5	2.		75	24	78	98.4	98.6	98.6	34	" " " in arrest.
6	68.	135.	34.5	3.	100		20	78	98.4	99.4	99	31	" " "
7	64.	128.	32.25	2.5		140	19	90	99.4	101.8	100	34	" " "
8	64.	110.	30.	2.5		110	18	90	98.6	99.6	99.4	26	" " "
9	63.	145.5	34.	2.		125	27	84	99	100	99.4	33	" " "
10	67.25	127.	31.75	2.25	215		19	76	99	100	99	37	" " "
11	68.50	133.	32.5	2.	135		24	84	98.8	100	99.5	25	" " "
12	64.50	111.5	30.25	1.5	75		24	87	96.1	98.1	97.5	62	" " " vegetarian.
13	67.	127.	31.	4.		140	19	76	Normal	Normal	Normal	34	Bronchiectasis.
14	67.	105.	31.	Not taken	Not taken		35	120	101	101.6	102.5	35	Chronic Pleuritis { Before the evacuation of fluid.
15	65.	108.	29.5	3.		165	15	82	99	{ Not taken	{ Not taken	16	Anæmia (school girl).
16	66.	124.	28.5	3.		160	19	76	99.2	99.6	99.8	31	Pertussis.
17	63.	109.	27.5	1.		40	35	140	99	100.5	101	34	Grave's Disease.
18	66.	166.5	39.5	1.	90		24	87	98	98.4	98.4	74	Hypertrophic Emphysema { Chronic Bronchitis and Asthma.
19	63.25	128.	32.75	2.50		158	19	76	Normal	Normal	Normal	37	In health (female).
20	69.75	166.	37.18	4.75	260		18	72	Normal	Normal	Normal	42	" " (male).

It will be observed that variations from the normal standard occur in nearly all the columns of the cases reported as being affected with pulmonary phthisis.

In the weight column, Case 6 is about normal, while Case 9 is more than twelve pounds in excess; Case 6, however, is deficient 4 inches in the chest circumference, and 1.18 inch in expansion, while Case 9 has a chest circumference of .30 inch in excess of the normal, although in the expansion there is a deficiency of .63 inch.

In the vital capacity column, Case 6, is deficient over 30 per cent. and Case 9 over 20 per cent.

The normal one to four relation of the respiratory acts to the pulse rate practically obtains in Case 6, but in Case 9 a considerable disparity occurs. The existing relation of 27 to 84 is clearly indicative of respiratory embarrassment.

Up to this point, in our analysis of these two cases, it must be admitted we have little substantial evidence indicative of pulmonary phthisis, but when we turn our attention to the temperature columns and find the temperature of Case 6 to be 98.4, 99.4 and 99, and of Case 9 to be 99. 100 and 99.4, morning, afternoon and evening respectively, we are forced to the conclusion that pulmonary phthisis exists, provided, of course, we believe the data in the foregoing part of this paper to be correct.

Case 5 represents a patient affected with chronic pulmonary phthisis, who was kindly referred to me by Dr. John Cooper, of this city. It is a case of long standing, and the disease is now in a condition of arrest; the temperature and pulse are both normal, the expansion of the chest is only .1 inch deficient, the vital capacity, however, is 40.6 per cent. below the normal, while the respiratory acts are 24 to the minute, instead of 19 to compensate for the deficiency. This case is cited to show that although we have a normal temperature throughout the day, it is, nevertheless, possible to determine the existence of consolidated lung by mensuration alone. The absence of pyrexia, the rapid breathing and deficient vital capacity noted would, it is true, answer just as well for a case of chronic bronchitis with peri-bronchial thickening, or for hypertrophic emphysema, as for example Case 18, as well as for several other conditions; but when we take under consideration the fact that this patient's power of chest expansion is normal while the circumference of the thorax is over two inches less than normal, our diagnosis of pulmonary phthisis in arrest appears warrantable.

Case 12, which represents a vegetarian affected with chronic

pulmonary phthisis, suggests a probable ætiological relation between diet and the occurrence of the disease. The temperature in this case is notable as being subnormal even at its daily maximum of intensity. Cases 19 and 20 represent about the average normal (female and male respectively) individuals.

They, as well as cases representing several diseased conditions other than that of pulmonary phthisis, are submitted to facilitate comparative consideration.

Fever is a symptom of phthisis in all its stages, and reaching the daily maximum of its intensity between one and three o'clock P. M., is its characteristic feature—a feature, to which very little attention has been paid in the past, of such value that by its unaided means we may be able frequently to differentiate phthisis from malarial and typhoid fevers, practically the only other febrile conditions which are occasionally characterized by an afternoon maximum of pyrexia.

In conclusion, I would recommend the more extensive employment of the scale with measuring rod, the tailor's tape, the spirometer and thermometer in the investigations of all chronic chest affections. The thermometer not once a day—but provide the patient with an instrument, direct him to take his temperature about 9 A.M., 2 P.M. and 7 P.M. daily and keep a record for inspection.

Cases of pulmonary phthisis are difficult to diagnose by physical exploration of the chest, not only in the incipient stage; but frequently, even after softening has begun, those of us who see many cases of this disease, gradually acquire the habit of being cautious in our examinations, for we doubtless appreciate the fact that the patient's neighbors are usually able to diagnose the affection when the third stage has been reached.

DISCUSSION.

Dr. G. R. Butler:—Mr. President, Ladies and Gentlemen: The only real criticism I have to make on Dr. Evans' paper, and it is a criticism which has been made on his papers before, is that he makes them so thorough and complete that there is very little left for those to say who have been asked to discuss them, but there are some points which may be of interest.

First, in reference to the apparatus which he has devised. There is no question in my mind but that it is by far the most accurate and scientific instrument for obtaining absolutely correct outlines and contours of the chest that has yet been devised. It is an interesting fact to know that after Dr. Evans planned this instrument, a

similar one, only less complete and meritorious in its mechanical construction, was invented by a German physician and is now in use in New York by some men who treat deformities of the chest and spine. There is no doubt at all that this instrument of Dr. Evans' is the most accurate one of the kind, going far ahead of the ordinary lead ribbon. I have taken many tracings by means of the calipers and the lead ribbon. While they are fairly accurate, they cannot approach the accuracy of the tracings by this instrument in the recognition of thoracic deformities.

If these deformities are marked, I think any one accustomed to observing the healthy chest will be able to notice the deviations from the normal, if they make the examination in a good light, almost as well as with the tracing; in other words, the tracing would confirm the observation of the eye. For the purpose of record and absolute accuracy the instrument Dr. Evans has devised is extremely desirable.

The great value of Dr. Evans' paper, it seems to me, is his bringing together the various items, some more important than others, pointing toward disease in the chest, at the time when the physical signs, as shown by auscultation and percussion, may not be sufficiently marked to be of any value in making a certain diagnosis. From this standpoint, the combination of a number of the separate items such as is illustrated in the Doctor's simple but complete table is extremely valuable, and its value is increased by the fact that it is at that time that therapeutic measures can be adopted with the greatest chance of success. Well established phthisis pulmonalis, as we all know, is a very hopeless disease in well marked cases. The time to attack it is at its earliest onset, and in the majority of cases its progress can be stopped. I say that advisedly.

The point which the Doctor made in regard to the afternoon rise of temperature being most marked is, so far as my own experience has gone, perfectly correct.

The main value of the paper being that which I have mentioned, the prevention of phthisis, I venture to ask, with Dr. Evans' permission, to submit one point in the treatment. We all realize there are many factors in the treatment of phthisis. Medicine, general hygiene, air, climate, diet, habits of life and exercise all come into play, depending on the case and its character. There is one item in the treatment which I have found extremely useful in the earliest stages, that is where there is deficient vital capacity and where the symptoms are such as to lead to the pretty certain conviction that phthisis is beginning—namely, so-called pulmonary

gymnastics, conducted by an operator systematically every day. I have no doubt many of us have attempted to demonstrate exercises to our patients, but the limits of time and expense are such that it is practically impossible for the physician to personally direct them. If they are left entirely to the patient they will either be forgotten, overdone, or not done sufficiently well. I have been fortunate enough to find one or two operators in this city who are able to give pulmonary gymnastics and supervise them with intelligence and skill, and I have, therefore, asked a lady who has made a specialty of that work, and whose work I have seen, to come here and demonstrate some of them. I might say in passing just what I have no doubt Miss Marsh would wish me to say, that in the carrying out of this sort of treatment the co-operation of the patient is absolutely necessary, that is one item; the second item is that the dress should be hygienic; the third, that the work should be regular daily work with simple exercises to be done at home. To quote from a brief paper written by Miss Marsh at my request:

"The diet is usually attended to by the physician. An examination of the patient is made, her habitual postures carefully noted, tracings and measurements taken, the capacity of the lungs is tested by means of the spirometer, and the muscular strength by various exercises; the frequency of the pulse and respiration is noted at the same time. A prescription suitable to the case is then made out and followed till change is required, when work of increasing difficulty is given as the patient regains strength. Examinations are made from time to time and changes in measurement and contour recorded."

I would mention one case which Miss Marsh treated for me. The notes are written from her standpoint. From my standpoint it was a case of incipient phthisis:

"Lady, twenty-two years. Disposition to phthisis caused by successive attacks of influenza; no hereditary taint. Symptoms: Fever, night sweats, breathlessness, headache, sharp pain under left scapula and left side of thorax, the upper side of which showed decided depression; loss of appetite, fitful and unrestful sleep, circulation sluggish, lung capacity bad.

I substituted hygienic dress for that worn, which was heavy and compressed the thorax considerably. Gave daily prescription of movements followed by massage; light work taken at home. At the end of one month tracings showed depression on left of thorax was nearly obliterated; measurements, that all diameters had increased; pain had ceased except at rare intervals; sleep was nor-

mal, and the appetite, if anything, above the normal. In lung capacity the average gain was fifty cubic inches. I have seen the patient twice since she left and find that the gain seems to be permanent."

Miss Marsh, having one of her pupils present, proceeded to demonstrate the movements, as follows:

Miss Marsh:—The movements which I will describe are for a patient of average muscular strength. I shall give this patient a stronger prescription than an ordinary patient, because I want to show some of the good movements. She has no actual disease.

The first movement will be a respiratory movement, which is passive on the part of the patient. The operator's hands are placed in the axilla, the patient leaning slightly back, and are then raised and drawn up and back, the patient at the same time inhaling, then down slowly into the sides while the patient exhales. This is given, perhaps, a dozen times.

Of course, in all these exercises it is absolutely necessary that the air breathed should be pure and that there is no obstruction from the clothing. The first thing to do is to get the patient into a good position. You will probably find the head drooping forward and the arms downward and forward, and the simplest way to get a good position is to get the head in position, and then naturally the chest comes up and the shoulders are thrown back and the exercises are better. They are of no use unless the patient is in good position at the beginning.

In all these exercises it is necessary that the breathing should be slow and steady, but in no case must the breath be held.

The next is called an active resistive motion. In this the patient has to overcome the force exercised by the operator. The patient's hands are placed back of the head with the elbows well to the side and then bends forward. The operator's hands are then placed on the lumbar portion of the spine and at the word the patient rises against this pressure, straightening out the dorsal curve and throwing the ribs forward.

The next is what is known as a derivative movement for the lower extremities, for bringing the blood to the lower part of of the body. The operator grasps the patient's foot and calf with both hands and causes the leg to describe a circular movement from the hip joint. The same motion is repeated with the other leg.

The next exercise is somewhat like the first, active on the part of the patient. It is a shoulder circling movement; a respiratory movement. In this case the movement is done by the patient, the shoulders being raised, carried back and down, while deep breath-

ings are taken. All through these exercises it is at first difficult to keep the patient from holding the breath, and that is one point we have always to keep in view

The next is an active resistive motion. The patient's arms are held up high above the head, extended to their full length, and she draws them forward against my resistance as I hold them back, and then I draw them out against her resistance, the patient, at the same time, keeping up regular breathing.

The next movement is what the Swedes call a specific to difficult breathing. The patient extends the arms at the sides, the operator steadies the hips and the patient rotates the upper trunk and the arms quickly from side to side.

Another form of this movement, which looks violent but which is not really so, is where the patient sits with the hands on the hips, leaning forward, body limp. The hands of the operator are placed under the arms and the body is quickly turned from side to side.

In this same posture, another active resisting movement is where the patient pushes up the hands against the operator's resistance and pulls down in the same way. This is especially for the pectoral muscles.

The next is also an active movement on the part of the patient. The feet are placed a little apart with the hands upon the hips. The body is then bent first forward nearly at right angles to the lower extremities, then to the right without rising, then back and then to the left, continuing the motion.

Another exercise which I always consider a good, simple breathing exexcise: The patient standing where she can get good fresh air, the arms are raised extended above the head and the body is raised on the toes, at the same time filling the lungs with air; then down on the heels, letting the air out. That is always a good exercise and simple for the patient to learn.

The next exercise is with the patient's arm in the letter "Y" position above the head, resting against the sides of a door. The operator's hands are placed under the patient's arms and the patient is drawn forward, the operator standing in front of and facing the patient.

Dr. B. F. Westbrook:— It would be impossible to review the points made this evening without discussing the practice of medicine, almost, if we were to take them all up, and it is hard to pick out those most interesting to the Society. As Dr. Butler remarks, Dr. Evans makes his work so complete that it does not leave us much opportunity for discussion.

It occurred to me—to begin at the end and go toward the beginning—that the system of chest gymnastics which Dr. Butler has had illustrated for us is of particularly great value from this point of view—and I think it is to that which the Doctor looks in prescribing it—that it forms a sort of performance, you might say; that it is something definite to go through with; something which attracts the attention of the patient and looks to be a little out of the ordinary way of doing gymnastic exercises. Anything that can be put on a basis of that kind, anything which will bring that particular treatment which you want the patient himself to carry out prominently before the mind and impress it, is always of great value, particularly in the treatment of chronic diseases. It has been with me one of the greatest difficulties in treating chronic patients, where I desire to have them exercise, to sufficiently impress upon them the importance of doing so, that the impression should remain permanent and effective enough to make them do it, and do it every day. It is rarely one finds a patient who will. I have assisted somewhat by teaching patients myself, but, as Dr. Butler says, it takes a long time and time is precious, and it is very discouraging sometimes after having taught a patient, to have him go home and never do anything further about it. It is not so much the particular movements, i. e., the external and superficial appearance of the movements, as it is the intrinsic character of them that we have to look to. In the works on the Swedish gymnastics one will find two or three hundred movements, a few of which have been given here. They are all variations on a few fundamental principles of movement. The audience will probably have noticed that the main thing done here was done on the basis of artificial respiration as we use it in the resuscitation of the drowned—the elevation of the shoulders, the drawing backward of the clavicles and the scapulæ, and, with that, putting traction on the pectoralis minor or other muscles of the chest, throwing the ribs forward and outward. Quite a little attention is paid to the motions of resistance, which increase the power of the abdominal and dorsal muscles and aid greatly in expiration. A great deal of stress should be laid on exercising the muscles of the neck, as the strength of the cervical muscles is of great importance. I think, possibly, the Doctor may pay more attention to it than has appeared in the exhibition to-night. Of course, you can not exercise the pectoral without exercising the cervical muscles, but by additional exercises to strengthen the trapezius, levator scapulæ and muscles running from the side of the cervical spine down to the first and second ribs and shoulders, you gain support

and steadiness of the chest, which assists in all respiratory exercises. Have you ever observed the necks of consumptives?

In regard to deformities of the chest, we should not allow ourselves to be deceived by the deformity due to extrinsic causes. A chest may be deformed from extrinsic causes, such as curvature of the spine and traumatism, some congential deformity or muscular weakness, in a way that will resemble exactly a chest deformed as the result of some internal thoracic or even abdominal disease. Often a flat looking chest may be a large and good one. Every curvature of the spine if it is marked, is necessarily accompanied by rotation of the vertebræ, which will necessarily throw the ribs of one side out beyond those of the other. In the lumbar region the articulations of the vertebræ being perpendicular the spine cannot bend sidewise without rotation, and to do that it twists as you see in paralytic cases, and as surgeons see in diseases of the hip joint. A curvature in the lumbar region dependent on a shortened limb or any other cause, will affect the vertebræ and you will necessarily get a little compensatory change in the arrangement of the thoracic skeleton.

These points are so interesting that it is hard to know when to stop talking about them.

I think a very important thing, certainly next to the most important which Dr. Evans makes to-night, is the taking of the temperature. He developed it so fully that I simply wanted to refer to it and emphasize it, and to make this remark: I have formerly done to a great extent what Dr. Evans speaks about, that is, I have supplied my patients with thermometers and have had them keep a record of the temperature for me. I have found frequently that the results were disastrous and have given it up. We all know how it is if we are treating a doctor. We take away his thermometer. And patients get into the same condition; they get frightened and many times it is unsafe, and really, while the physician gets some valuable points in working out the case, the worry and fright of the patient cause positive injury.

Another point is the examination of the heart in phthisical patients. There is probably no one thing that will carry a patient through, who is threatened with pulmonary disease, so safely and reliably as a good, strong heart--of all things it is necessary. I think Dr. Evans and Dr. Butler will agree with me when I say that probably the best of all the results accomplished by exercise in these cases is the strengthening of the circulatory apparatus. This idea was brought out by Ling in his development of the Swedish movement cure, and from him probably Dr. Oertel got the idea

when he advised the mountain climbing business; ideas, all of which occurred to others but were more carefully developed and insisted upon by these men.

Dr. Herbert F. Williams:—Inasmuch as I was invited to discuss this paper it would be unbecoming not to say anything, but on account of the late hour and oppressive heat it will be still more unbecoming to say much. I was entertained by Dr. Evans' paper and shall act on its suggestions.

It would be but a reiteration to speak of the salient points he makes, but by way of emphasis, I desire to refer to the great importance of making early diagnoses in all phthisical and tubercular conditions. All mechanical devices to this end may be commended. We may not be able to appreciate the importance of the ingenious instrument which has been exhibited to-night, still as years go by it may be found a great help and necessity in detecting early pulmonary abnormality.

Dr. E. M. Mosher:—The value of this instrument which Dr. Evans has presented and which shows so well the exact shape of the chest, depends, of course, upon our knowledge of the shape of the normal chest, or the variations from the normal, and the laws which govern those variations. In a paper which I read here a year ago on the "Influence of Habitual Posture on the Shape of the Body," those who were interested in it will remember I made the statement that where the two side lines of the body are unequal I had observed that the chest on the lower or short side was more active and a little larger than that on the upper or long side. Where a person had the habit of standing on one foot with the other thrown out at the side, lowering one shoulder and raising the hip on that side, the lung was more active. I had not at that time made any accurate measurements to prove this. When I learned that Dr. Evans was going to present this apparatus, I asked him to measure with me a number of these patients that we might have some facts to present upon this point We measured seven individuals and I am very glad to present here the plates made from these measurements. Of these patients, two were what I am pleased to call "right standing twists;" two were "right sitting twists," and three were "left standing twists." Of the three "left standing twists," two were ambi-dextrous—all the others were right handed. In the "right standing twist" cases we found the short right side with the right chest a little larger in all cases than the left, as the diagrams will show. In the "left standing" ambi-dextrous cases there was also the same thing in a little less degree. One patient showed a very positive

shortening of the left side with *larger right* lung. That patient was a stumbling-block until I examined the chest afterwards, and found what the diagram indicates, that she had had an old pleurisy and the lung on the left side is fastened down below the scapula. So this case may be thrown out and we may say from these cases we have proof, which is fairly positive, that anything which shortens the body line on one side will permit of greater motion of the respiratory muscles on that side, or rather will place the other side at a disadvantage. I would like to say in addition that I have measured with the tape very carefully the two sides of these cases and an additional number, and I found in every individual a difference of from one-fourth to one inch increase in favor of the lower side.

It seems to me, Mr. President, and members of the Society, it is of very great importance that we recognize this loss of respiratory movement on the upper side of the body which has been tilted by one influence or another.

Dr. Evans:—Mr. President, I do not know that I can add anything to what has already been said on this subject. My object in bringing the matter to the notice of the Society is to emphasize the necessity of more fully equipping ourselves to detect pulmonary phthisis in its early stage at a time when simple means may avail, rather than to devote our energies to searching for a cure we will never find, for the disease in its last stage.

I feel quite certain that all genuine advance in our management of phthisis must be made in this way.

In view of what Loomis and others tell us regarding the frequent failure of physical exploration of the chest to differentiate tubercular infiltration of lung substance from bronchitis, we can scarcely expect the general practitioner who is embarrassed by a lack of time, a want of frequent practice, the patient's diffidence, etc., etc., to make a correct diagnosis in every case of incipient phthisis he may see.

VAGINISMUS, WITH A REPORT OF A CASE.

BY L. GRANT BALDWIN, M.D.

Read before the Brooklyn Gynæcological Society, Jan. 6, 1893.

Mr. President and members of the society: The few remarks which I have to make on this subject are not worthy of being dignified as a paper. My apology for bringing it before you is the

little and not the much that I know about it. By vaginismus I refer to that condition of spasmodic contraction of the muscles surrounding the entrance to the vagina, which precludes the possibility of or renders coition painful, and not to the rarer condition in which entrance to the vagina can be effected, the spasm coming later rendering withdrawal difficult or impossible.

Of this latter variety I believe a few well authenticated cases are reported. The condition is not a common one and I doubt not that this fact accounts for the little that is said of it in the current works on gynæcology. But I know of no condition calculated to cause more trouble and annoyance together with domestic unhappiness than vaginismus when it prevents coition.

The condition was first described and the treatment detailed by Sims, in 1861, in a paper read before the Obstetrical Society of London, but his investigation had been going on at the Woman's Hospital and in private practice since 1857. But little has been added of any importance since his time, thus showing the completeness of his investigations, and correctness of his conclusions.

Unfortunately his treatment has not, in the hands of all surgeons, proved as successful as with him. Sims held that in almost all cases the trouble was in the hymen per se and attached but little importance to other reflex causes as anal fissure or ulcer of the rectum, together with the different displacements of the uterus and pelvic inflammations, as taught by Emmet.

Sims' treatment was to remove the hymen entire and then cut through the vaginal tissues at each side of the fourchette, uniting them at or near the raphe, after which the parts are thoroughly stretched and a glass plug of a suitable size inserted and worn for a varying length of time.

The most perfect examples of the condition, according to his experience, have been unaccompanied by any inflammation or even redness of the hymen, in this he differs from most other observers.

Undoubtedly the causes often exist originally outside of the hymen, as I think it did in the case I shall report to-night. If there is no pathological condition of the hymen, I think in all cases we should look to the rectum or higher up in the vagina and the pelvis before removing it.

In operating for its removal I much prefer the method of Dr. Skene, in which he carefully coaptates the cut edges of the mucous membrane.

Mrs. X., age twenty-eight years, three years married, first came under my care in May, 1892. At that time she was anæmic, ex-

tremely nervous, bowels constipated, appetite poor, obstinate insomnia, with her general health much impaired; weight, eighty-nine pounds. The history revealed tne following facts: Sexual intercourse had never been possible, *i. e.*, in a satisfactory manner. The slightest attempt at copulation produced a nervous condition, from which she would not recover for several hours. From her husband I learned that she had no repugnance to the act and had honestly tried to be a wife to him.

Her menstrual history had been good until marriage, but since had always been painful but regular, and the flow of a normal amount. The constipation also dated from about the same time as nearly as she could remember. I decided that any examination without an anæsthetic would be futile; accordingly, two days later, after careful preparation, she was given ether, which had to be carried to the extreme degree. An attempt at passing the finger into the vagina, when the cornea was first insensitive, resulted in a spasm, which was painful to the examining finger. On separating the labia the hymen appeared as a complete ring of intensely inflamed mucous membrane. Further examination revealed a uterus of normal size and shape, but somewhat prolapsed in the hollow of the sacrum. I was prepared to make whatever operative interference seemed advisable.

Whatever may have been the original cause the hymen was undoubtedly the offending structure and was unbroken. I removed it with Emmet's full curved scissors, being careful to get it entire, but at the same time avoiding the mucous membrane of the vagina. The edges of the resulting wound were carefully coaptated with a fine cat-gut suture, and the line covered with a solution of iodoform in collodion, after complete control of the slight oozing of blood from the stitch-holes with hot water. Just as the patient was about to be taken from the operating table I noticed an irritated appearance of the anus, and on further examination I found an ulcer on the posterior wall of the rectum just inside the sphincter, about the size of a cent. It had a chronic look and was bathed in pus. The muscle was thoroughly stretched and the ulcer touched with pure carbolic acid. The wound healed by first intention throughout the whole extent under the air-tight covering of iodoform and collodion. A day or two later further questioning of the patient revealed the fact of extreme pain after defecation, and also, that ever since marriage she had passed a cast of the uterus with each menstrual epoch. She had not considered *these* of sufficient importance to be mentioned when considered with, what was to her, the more grave condition. In due time she men-

struated and, sure enough, passed a typical cast of membranous dysmenorrhœa.

On the first of July the patient went to the country alone, *i. e.*, unaccompanied by her husband, and remained until the middle of September. I saw her on the tenth of October. and a more healthy looking woman I have seldom seen, and she informed me that she felt as well as she looked, and that she had gained twenty-six pounds in weight. Her constipation and painful defecation were gone; she had passed no more membranes, and, what was most of all gratifying to her, had been able to have sexual intercourse, not only without pain but with pleasure. This condition has continued up to the last time I saw her, which was in the early part of December.

The interesting point in the case to me and on which I would like the opinion of the society especially, is the relative relation of the three pathological conditions. Was the ulcer in the rectum the first trouble and from that the first pain from the attempted intercourse, resulting in an imperfect rupture of the hymen followed by fissures which were not fully dilated and finally by the inflamed condition of the hymen I found when I first saw her? And did the membranous dysmenorrhœa result as a consequence of the impaired nervous system due to this irritation, or were they simply coincident, and is the relief of the dysmenorrhœa to be accounted for in the same manner and may I look for its return at no distant day?

DISCUSSION.

Dr. A. J. C. Skene: This subject is one that has claimed considerable attention. Although rare, the cases are annoying, because of the suffering--suffering which is not limited always to one but involves two—so that the subject requires, naturally, all the attention and thought that we can give to it. I have never accepted the views of Marion Sims entirely, either in regard to the pathology or the treatment. I believe that his idea was that this vaginismus was a muscular spasm due to some irritability of the muscular structures of the pelvic floor and, perhaps, the muscular layer of the vaginal wall. I am not sure that the vaginal wall is capable of spasmodic contraction; that is to a degree such as we find it in vaginismus, so-called. I have never seen a case where I have been satisfied that the trouble was in the muscles or that the muscles were to blame. It is true we have spasmodic contraction, but that is due to the deranged innervation from some other cause and the muscles simply respond to the nervous impulse, the muscles themselves being free from any disease excepting in one con-

dition, and that is a state which I might call ankylosis of the muscles of the pelvic floor. I have seen a few cases of that, and I recorded some of them, where in the past, perhaps in early life, there had been some inflammatory action about the pelvis, involving the muscles of the pelvic floor, which caused a want of elasticity or contractility about the muscles, and it was impossible to dilate the vulva, because of this rigidity or ankylosis of the muscles. That I have seen; but the spasmodic contraction of the vulva and vagina caused by some disease of the muscles I have not seen. Consequently, I have always believed, and believe now, that the practice of dividing the muscles for the relief of this spasmodic contraction and the keeping them dilated by the dilator invented by Marion Sims is an operation that is uncalled for and unsatisfactory, and I do not believe it is practised to any great extent today. I have never seen a case where I thought it would have been of any value, and in those where there was ankylosis I doubt whether it would be efficient. We know that any division of the muscles and fascia of the pelvic floor is a lesion which itself gives any amount of trouble and we are constantly operating to remove that condition produced by laceration; so I think it is hardly good surgery to do that operation for vaginismus.

The pathological conditions which I have found in connection with this spasmodic contraction are of several kinds. That certain affections of the hymen have much to do with it I am sure, and, perhaps, most of all to do with it. I have found two conditions, in fact I might say three, which give rise to the same symptoms. First, inflammation of the hymen; in women who in child- or girl-hood had vulvitis there is apt to be a sub-acute inflammation of the hymen remaining, and those cases after marriage suffer from vaginismus. Again, there is a condition of the hymen where there is a hypertrophy limited almost, I think, to the epithelial layer. If the hymen is ruptured the remains of the hymen, or the portion left after rupture, become thickened and give a peculiar appearance, which I do not know that I can describe. It is a sort of villous appearance, as if the epithelia were hypertrophied so they appear wart-like. In that condition there is hyperæsthesia of the vulva without inflammation, and that gives rise to the same symptoms as described in the paper. Then there is another condition in which the hymen is congested and thickened to two or three times the thickness of the normal hymen, perhaps more than that, and is not ruptured, and after a time becomes hyperæsthetic. Those three conditions I have noticed, and I believe either one or the other of those is found in the great ma-

jority of these cases. That disease of the rectum will aggravate the disease of the hymen and hence produce a marked vaginismus with less trouble of the hymen itself, I believe to be true. I doubt very much whether if the hymen is perfect, is not inflamed, or naturally hyperæsthetic, any disease of the rectum would produce what is called vaginismus; but if there is any hyperæsthesia or any slight inflammation about the hymen and also fissure of the rectum, I am quite sure that will cause all the suffering of a marked vaginismus. So I believe rectal disease comes in as a marked complication of these affections of the hymen, and when present will give an infinitely more persistent and more marked vaginismus than with disease of the hymen alone. I also believe that certain conditions of the meatus urinarius when present will add to the severity of the case, but so far as I have been able to observe, the great source or genesis of the whole trouble is in the hymen. Of course, there are cases that differ entirely from any that I have referred to, and I mean those that are of a purely nervous character—pure neuroses. I have only known of one such case, which I saw at the request of Dr. Conkling years ago, a lady who had been married many years and had one child, and I understand that that child was begotten while she was under an anæsthetic. It was hoped if she could become pregnant the trouble would be relieved. In that case there was nothing in the way of spasmodic contraction of the vulva generally; there was no diseased condition of the hymen; in the remains of the hymen there was neither inflammation or any marked hypertrophy, but a hyperæsthesia which was so marked that the proposal to make a vaginal or digital examination would almost throw the patient into convulsions, and it was only by the aid of a mild anæsthetic that I was able to make an examination at all. The patient had a good deal of self control, was not hysterical, was a woman of strong will and good sense, very anxious to get well, and pleased with the idea of the Doctor having me see her with him; she was not afraid of us, and in talking with her she was quite composed and manifested no nervousness, and yet when the time came for making the examination and she was conscious of what we were about to do she became so intensely nervous that it was impossible to proceed. It was impossible to get near enough to the patient to begin the examination, she became so frightfully nervous. I am sure that was a case, the only one I ever saw, where there was some lesion or functional derangement of the nerves supplying the parts, and nothing more.

These are my views regarding the pathology of the subject.

Now, with reference to the treatment. I have already said that I have not practised Sims' method, because I do not think it is necessary. I have not seen a case (excepting the one just referred to of nervous trouble) that could not be promptly relieved by the excision of the hymen, done in the way that Dr. Baldwin has described. In the cutting out of the entire hymen with the knife, as Sims practised it, and leaving the parts to take care of themselves, there is likely to be some union by granulation and the scar is apt to be sensitive; but if the diseased parts are removed and the portion of the mucous membrane underlying the vestibule is left, simply the hymen taken out, and if there is any portion of it not inflamed and thickened, that portion left also, and the wound is united with sutures and carefully dressed, it will heal at once and leave no apparent scar. I have seen no such cases that did not recover. Of course, when I have found any neoplasms at the meatus urinarius they have been removed. Rectal, uterine or ovarian diseases should also be remedied.

There is a history given of painful coitus that may be mistaken for vaginismus, which is entirely due to ovarian disease, but an examination settles the question easily.

The practice of removing the hymen has in my own hands been entirely satisfactory. Just before coming here to-night I recalled four typical cases. I think that the Doctor's history would fit almost any of them, except that in neither of them was there any marked rectal disease. In one or two of them I think there were some urethral lesions of a minor order, but the chief trouble was with the hymen. Two of the cases were treated in my private practice last winter. The history I need not refer to because the Doctor's history of his case, excepting the rectal difficulty, covers them. One had been married two years and the other three years; both their husbands had run for Congress but did not get in. That was about the history so far as the family relations are concerned. Both are mothers now and perfectly well. I think, however, we should bear in mind that it is well to keep each patient under observation for some time before letting her return to her service at home. I was fortunate in all four of my cases that they came from out of town and I could keep them until they had recovered from the slight operation and menstruated, and I found the vulva could be dilated with a Sims' speculum without distress. The other two were treated four or five years ago and the results were precisely the same. They have had children also.

It only remains now for me to say a word with reference to the treatment of those cases where there is fixation or rigidity of the

muscles of the pelvic floor, and where any effort at dilating the vulva by the touch or with the speculum gives rise to marked pain and of course gives all the physical signs and symptoms of vaginismus. I would say with reference to these cases that while I have seen but few, I have managed to give them relief. One of them remained sterile, however. She passed from under observation long ago, but I have kept track of her and know she is sterile, but not because unable to take the initial step towards gestation, but because of some arrested development of the uterus. I have treated these cases as one would treat an ankylosed joint, by stretching the muscles. One of them, I remember, I treated by putting her under the influence of nitrous oxide gas, and then with a Sims' speculum thoroughly stretching the muscles, not to any great extent at first for fear of rupture, but by gradual dilatation and stretching of the muscles they regained their elasticity or stretchability, which would express it best, and relief was obtained in that way.

I do not know that there is any relationship in the way of cause and effect between membranous dysmenorrhœa and vaginismus. As far as I can remember most of the cases of membranous dysmenorrhœa that I have seen have been in single women; I do not know if there was any vaginismus connected with the membranous dysmenorrhœa or not. I can readily understand why there might be, but I have no facts that would prove it. I have long maintained that membranous dysmenorrhœa was due to some derangement of innervation and ultimate nutrition. I have seen it mostly in those who had some ovarian pain and tenderness, probably sub-acute ovaritis, and they have generally been patients of highly-marked nervous temperament, and so, putting all these points together, I have believed it was a lesion of nutrition and a derangement of function that had its starting point in some derangement of innervation, and if that is near the truth then we can readily see in cases of vaginismus how the membranous dysmenorrhœa might be the beginning of the whole trouble.

I would like to ask Dr. Baldwin whether the patient had membranous dysmenorrhœa before she had vaginismus or whether that developed afterwards?

Dr. Baldwin:—No membranes were passed before she was married.

Dr. Skene:—I shall hold this as a very important item which I shall not forget, and that is, that possibly this nervous perturbation arising from the vaginismus may have so deranged the function of that mucous membrane as to produce membranous dysmenorrhœa.

It is a valuable clinical fact, and when we get facts enough of that kind together we may know more about this membranous dysmenorrhœa than we do at the present time.

Dr. Dickinson:—I am sorry to have missed hearing the paper, because it is a subject of great interest to me since publishing an elaborate study of the levator ani in the *American Journal of Obstetrics*, September, 1889. During that study I became convinced, from cases of my own and researches in the literature, that most vaginismus was due to levator spasm. It has been stated that the sphincter vaginæ is the chief element in forcible spasmodic contraction of the pelvic floor, but I think any one dissecting the pelvic floor carefully would hardly say that such a muscle could ever become hypertrophied to the extent of such a spasm as we see in aggravated cases of vaginismus. In order to test the strength of the levator I devised an approximate method to satisfy myself that it was possible that that muscle could do as vigorous work both in repelling the examining finger and in holding back the head during labor, as would seem to be indicated from reported cases. Tiemann made for me this dynamometer. It is warranted to be accurate, which ordinary dynamometers are not. In using it, the small end of a small Sims' speculum is passed into the vagina in such a way that it cannot touch the coccyx and can only span the main muscular bundles of the levator. This is then made fast to dynamometer with a cord and gentle traction is made so as to bring the end of the speculum snugly against the vaginal wall. The dynamometer will then register two pounds. Then the patient is asked to contract the levator, to close up, to make that pressure that she can easily be told how to do, and the scale registers the amount. From this reading is subtracted the two pounds mentioned. In measuring thirty or forty cases the average strength of the levator was found to be ten pounds, whereas in cases of vaginismus where the levator was hypertrophied it ran up to twenty-three, twenty-four and twenty-seven pounds. The levator is a thin muscle, ranging from one-eighth to three-eighths inches in thickness, and its fibres fan out in a way that would seem to belie any great strength in such fibres. But the muscle itself is no thinner than the walls of the uterus during labor, and no thinner than the diaphragm, and the levator fibres are backed by a very dense, strong fascia, so the muscle is one of importance in supporting the contents of the pelvic cavity, and it can certainly give rise to very severe spasm.

I would like to report one case of this kind which seems to be a pure neurosis, and because I think such cases are rare.

As Dr. Skene says, we can usually find a distinct lesion, such as a fissure, to account for these cases, and long continued fissure will give rise to hypertrophy of the muscle. I class all cases of hypertrophied levator under these four heads:

1. Muscular women, such as young domestics.

2. Erotic women, and particularly the subjects of masturbation.

3. Women with wide pelves, where the strong levator is needed to hold up the contents of the pelvis.

4. Patients suffering from painful lesions about the vulva and anus, such as fissures.

The case I refer to is a young woman, twenty-two years of age, who had been eight months married, and whose husband had been unable to penetrate beyond the hymen. There was no lesion beyond a slight redness of the hymen, and this was easily cured by the application of an astringent. The patient was an exceedingly nervous one; she had taken a great repulsion to her husband soon after marriage by finding out that he was a gambler and a drunkard, and I presume that was the basis of her trouble. She had the sedative galvanic current for a dozen or fifteen applications, and she improved a little, but not enough to permit intercourse. Finally I put her under chloroform and examined thoroughly to be sure that nothing had been overlooked—such as a lesion of the rectum, or a high fissure, or displacement, or ovarian trouble, which could not be determined before—but finding nothing I stretched the levator thoroughly and distended the vulvar opening, put in a large-sized Sims' dilator, and that was the end of the trouble altogether.

Among my eight cases of membranous dysmenorrhœa I recall two patients who are married; in one instance the membranes were present for years before marriage; in the other they developed after heavy mental strain.

Dr. Skene:—I am exceedingly interested in what Dr. Dickinson has said. I know that he has given more time and attention to that portion of anatomy than any man I know, and I have gained from his studies and investigations many valuable points, and yet I think I will have to take exception to some of his statements, more for the sake of giving him a chance to prove that he is right than from any disposition to be critical.

The impression that I have is that the levator ani muscle really has very little to do with, or is not to any great extent responsible for vaginismus now under discussion, and I will give you my reasons. While I know that the levator ani muscle has

more to do with the closing the vulva, or certainly as much as the so-called sphincter vaginæ muscle or muscles, I know that the vulva may be closed, and that to a certain extent a spasmodic contraction of the vulva may occur when the transversus perinæi muscles and the bulbo-cavernosus muscles are lost, the first entirely so, and the second over-distended by powerful action of the levator ani muscle. But it would be impossible, it seems to me, for the levator muscle to produce a vaginismus. It might produce a vulvismus; I mean it could be responsible for causing a spasmodic contraction of the vulva. In those cases of vaginismus that have not borne children, and the muscles are intact, spasmodic contraction and closure of the vulva is no doubt produced to a large extent by the action of the levator ani muscle, but not entirely so.

Nor do I believe that it is because of any hypertrophy or hyperæsthetic condition of the muscle itself that it produces this spasm; but in case there is an irritable hymen from some nerve condition, unknown perhaps, or hypertrophy or sub-acute inflammation of the hymen, then the irritation at the vulva will cause the muscles to become spasmodically contracted.

You remember, of course, the distribution of the fibres of the levator ani; that its fibres flare off from the vulva towards the pelvic lines, and it would be impossible for them to produce a spasm of the vagina, excepting at its very lower portion. Because of these facts then, while I am willing to grant that the spasm is largely produced by the action of the levator ani muscle, the contraction is caused by the primary lesion, which, in nine out of ten cases, is situated in the vulva or hymen.

As I said before, I simply raise these questions to see whether Dr. Dickinson has got at the exact facts in reference to them. I may not have understood him, but if he claims what I think he did I hardly think the clinical facts will sustain him. I raise the question simply.

Dr. Dickinson:—I learned what I first knew about the pelvic floor and its muscular development from Dr. Skene, and a good many points that tell against his own argument he taught me. I believe entirely that all the muscular structures of the pelvic floor take part in a severe vaginismus, and that also the primary lesion is in the vulva, but that there is no muscular structure of sufficient vigor to cause so violent a spasm, except the levator. If I had time to reproduce some of the drawings in my pamphlet, I think I could easily show how all the objections are met by a careful study of the anatomy. How much vigorous action the levator can

have in such a way, how its action extends all the way up the vagina from half an inch within the hymen inwards and upwards, is a point that could only be worked out by a good many pictures.

Dr. Skene:—I entirely agree with Dr. Dickinson as to the spasmodic contraction being mostly due to the action of the leva tor ani, but still hold to the fact that the muscle is secondary in this affection and that the spasm is produced by the disease outside of the muscles. If it were not so, then Sims' treatment would be justifiable and the best, and yet in any of these cases where there is this violent contraction of the levator ani muscle the whole thing is relieved by relieving the disease of the vulva, hymen, meatus and rectum.

Dr. Sims, I think, was the first to describe a muscle or arrangement of muscular fibres high up in the vagina, an inch or so below the cervix uteri, that strongly contracted during coitus. This muscular arrangement resembled anatomically the detrusor muscle of the rectum described ten or more years ago by Chadwick in the transactions of the American Gynæcological Society. A description is in our new library now. The function of this band of muscular tissue high up in the vagina was for an entirely opposite purpose. Chadwick's muscle was for the purpose of evacuating the rectum; Sims' muscle or band of fibres in the vaginal wall was for the purpose of enabling the vagina to retain all that it got, and I think he claimed that that had something to do with vaginismus. It occurred to me how that muscle might give rise to spasm in the upper part of the vagina, but I do not think that such spasm could be brought about by the levator.

Dr. Dickinson:—In order to find whereabouts in the vagina are the muscular bundles, to work out the point Sims made in his Uterine Surgery, I made a phallus of wax (moulded of clay furnished by Dr. Skene) and took that wax cylinder and passed it into the vagina. Now if we ask the woman to contract her levator vigorously, provided it has a very mild power, the phallus will show the following changes: At a short distance in we get the dip made by the symphysis; then just within the hymen we get an irregular row of depressions made by the different muscular bundles; here the inner strong ridges of the levator ani, those two strong bands that are felt easily on the lateral vaginal walls when she contracts; and further up you get the upper fan, the so-called ischio-coccygeus of Savage, which is the muscle Sims referred to. He said it was to retain the semen in the upper part of the vagina and to press the glans penis further against the cervix.

Here is another curious point: As we enlarge the phallus the muscular fibres gather themselves together so that the depression is almost all in one place.

One side of the levator shows more strongly than the other. Rarely have I found the two sides of the levator of equal strength, so the phallus is generally bent either one way or the other from the difference in the two sides.

It is the upper of the three fans of the levator that makes the pressure on the upper end of the penis or wax phallus, crowding it against the cervix.

Until my illustrations were published I think there was nothing that worked out any of these points. Of course, my study has not been elaborate enough to make sure of them all, but in my own mind I am quite persuaded the levator could do most of the work. I am glad that Dr. Skene has drawn attention to the fact that the trouble is primarily in the hymen and I do not wish to take issue with that point, but that the spasm of the levator is simply secondary to the cause which lies in the hymen.

Dr. Skene:—Did Dr. Dickinson find that the impressions of the levator ani were up n each side of the wax phallus?

Dr. Dickinson:—Lower down, the indentation is about even all the way around; higher up it is more lateral.

Dr. Skene:—All these points I have gone over and I am glad Dr. Dickinson has brought them up, and yet I want to call attattention to the fact that while we grant that the levator ani can produce this spasmodic contraction of the vagina, laterally especially, the antero-posterior contraction is not by any means marked, and the same thing is observed in quite a marked degree clinically. Those of us who have had an opportunity to make an examination in cases of vaginismus have found that when we get beyond the vulva the contraction of the vagina, of course, is present at the lower portion of it laterally, but antero-posteriorly there is abundant room—there is not complete spasmodic contraction of the entire canal, that is the point. So even the doctor, with his accurate anatomical observations, shows that vaginismus is a thing that is not known as a rule. It is really a spasm of the vulva after all, and that spasmodic contraction depending very largely upon the action of the levator ani muscle.

Dr. W. B. Chase:—To my mind a very valuable consideration is that suggested by the paper and by Dr. Skene, on the causation of what Dr. Skene calls membranous menorrhœa. Regarding the

origin of this disease and its pathology there are questions of interest which have not been definitely settled. Is it functional—is it purely functional in its inception? In the history of this case of Dr. Baldwin's, that he gives in his report to night, there were no membranous casts prior to marriage, and they cease on her recovery from vaginismus. That settles a point in this case, presumably, at least, that the membranous casts were wholly due to mal-nutrition and were functional and not organic—functional I mean in their inception. A few more facts of this kind I think will go a long way towards clearing up some of the mooted points of the pathology of this condition.

Dr. Dickinson:—In looking over the literature of membranous dysmenorrhœa we should never lose sight of the fact that Dr. Skene has championed the nervous origin in a way which ought to be remembered when the rest of the world has come around to Brooklyn's ideas.

Dr. L. Grant Baldwin:—In regard to the treatment of Sims and the division of the muscle. While at the Woman's Hospital I saw a number of cases treated in that way, and I do not remember more than one that was benefited. I remember several were not; two distinctly. It was my duty to change the glass dilator occasionally, and the suffering of the patient while wearing it was extreme.

I thank the gentlemen for their kind discussion of my paper.

REPORT OF CASES OF (I.) PERFORATION OF THE VERMIFORM APPENDIX IN THE SAC OF AN IRREDUCIBLE FEMORAL HERNIA. (II.) SCIRRHUS OF THE BREAST IN A YOUNG SUBJECT. (III.) EPIPHYSITIS OF THE HEAD OF TH TIBIA.

BY H. W. RAND, M.D.

Read before the Brooklyn Surgical Society, March 16, 1893.

Case I.—Perforation of the vermiform appendix in the sac of an irreducible femoral hernia.

The patient was a female aged about forty, whom I was asked to see by Dr. George Everson. She had, upon the right side, an old femoral hernia, which had been long irreducible, and which had many times been obstructed. It had also occasionally been strangulated, and given rise to symptoms apparently similar to those now present. The tumor was about the size of the head of a child two years old. It was tense and hard, but tympanitic over most

of its surface. Taxis had been applied, for although considered irreducible at least in a great measure, its size could heretofore be much diminished by such manipulation and the symptoms thus relieved. Temperature 99°, pulse 96. Complained of nausea and of pain around the umbilicus. Abdomen hard and very sensitive to pressure. Elevation of the pelvis and gentle taxis failing to produce any appreciable decrease in the size or consistency of the tumor, a copious enema was advised, and later, continuous elevation of the pelvis and an ice water coil to the hernia.

The next morning the local symptoms were better, the bowels had moved in response to the enema, and the hernia was perceptibly smaller and softer; but her tongue was dry, pulse 100 and weak, temperature 100°. Towards afternoon her condition became worse, pulse and temperature increasing, abdomen more tense, hernia larger, harder and more sensitive. An exploratory operation was advised. Whether the symptoms were due to commencing strangulation, to inflammation or to some other condition could not be determined otherwise.

She was removed to the Long Island College Hospital, where I operated soon after. The hernial sac was very thick and leather-like. It contained omentum, several coils of small intestine, the cæcum and about six inches of the ascending colon. The latter was not adherent, and was probably that portion of the hernia which heretofore had been reducible. The remaining intestine and omentum were bound firmly by old and extensive adhesions both to each other and to the sac. While determining these facts pus was seen to well up at the inner side of the cavity, and on tracing this to its source it was found to proceed from the appendix, the terminal end of which had sloughed, leaving an opening about one-fourth inch in diameter, from which pus was still issuing. The amount of pus found within the sac and the absence of any other suppurating foci seemed to indicate that perforation had taken place some days previously The appendix, which was about three inches long and pointing downwards, was firmly attached to the intestine throughout its entire length by what appeared to be an old and organized exudate. The width of this attachment was at least an inch, and so firm that no justifiable force could separate it. No concretion or other foreign body was found.

Had not the patient's condition prohibited further interference it would have been somewhat difficult to decide what course would be the best to pursue, but it was necessary to terminate the operation as soon as possible. I accordingly washed out the sac, stitched the suppurating end of the appendix to the lower side of

the wound, introduced a drainage tube to the bottom of the sac, packed iodoform gauze around it, and closed the upper part of the incision. The patient did not rally well, but regained consciousness, and lived thirty-eight hours after operation.

In this case there was a most unfortunate combination of diseases which prevented early recognition of the appendicitis. So far as the patient and her husband could observe, the trouble was at first such as that from which she had often before recovered with such manipulation as he could make, and he had at this time applied taxis before medical aid was summoned. The appendix and not the hernia was directly responsible for the patient's death. An earlier operation might have been successful, but with such a history the indications for early interference were not clearly defined. In hernia upon the right side, the possible existence of this most serious and not infrequent complication should always be kept in view, and should, sometimes at least, induce the surgeon to operate when he might with good reason refuse to interfere in an irreducible hernia on the left side.

Case II.—The infrequency of scirrhus of the breast in young subjects induces me to report the following:

Miss M., aged twenty-two, was referred to me by Dr. Santoire. Three years and two months prior to her visit to me she observed for the first time a small lump in the upper and outer segment of her left breast. This has gradually increased in size until now the entire gland is involved, and the overlying skin is more or less nodular, red and adherent. The nipple is enlarged to more than twice its former size, but is somewhat constricted at its junction with the skin as though retraction at that point was beginning to take place. There was no pain until six months ago, and there has been only a moderate amount since then. The axillary glands were markedly enlarged. The age of the patient and appearance of the nipple did not suggest scirrhus, but the feel upon palpation of the breast and the enlargement of the axillary glands pointed to carcinoma. I removed the breast with the underlying portion of the pectoral muscle, which was also involved, and cleared out the axilla. The edges of the skin could not be approximated by some three inches, and the intervening gap was filled in with grafts after Thiersch's method.

Professor Van Cott kindly examined the specimen and pronounced it to be a typical scirrhus.

In looking over the literature of this subject I find the following statements:

Paget says "that scirrhus of the breast has been seen before

puberty, but is extremely rare at any age under twenty-five." In 434 cases tabulated by this authority the disease was first observed between the ages of twenty and twenty-five in but seven. The youngest case reported by Erichsen is twenty-three. Gross says, "the youngest case I have ever seen was in a woman twenty-seven years old." Birkett, in Holmes' System of Surgery, says he has never seen a case of scirrhus of the breast in which the first symptoms were observed under twenty years of age. Bryant, with a record of four hundred cases, makes the same statement. The disease was first observed by this patient when she was nineteen, and felt to her at that time like a small marble.*

Case III.—W. G , aged five, of healthy German parentage, was brought to me about two years ago with what appeared to be an osteo-arthritis of the left knee. There was some enlargement of the entire joint, slight flexion at the knee, fulness in the popliteal space, and marked tenderness, especially over the head of the tibia. The child had walked lame for some months, and had suffered considerable pain. A splint was applied, and rest, alteratives, etc., advised. This treatment was continued for two or three months without apparent benefit, when, owing to removal to a distant part of the city, the patient's visits ceased until some four months later. During this time the joint had increased in size, become more flexed and evidently contained fluid. A fluctuating swelling had presented at the outer side of the crest of the tibia, at the junction of its upper and middle third. This was opened by incision, and an ounce or more of laudable pus evacuated. No perceptible decrease in the size of the joint was apparent at this time. A probe, after patient search, was made to follow a sinuous route upwards and behind the tibia, but at this examination no exposed bone could be felt. A few days later I enlarged the opening and was able to detect carious bone upon the posterior surface of the head of the tibia, and to demonstrate that this sinus communicated with the cavity of the joint, but by a small opening and through a tortuous route, it being impossible to introduce any instrument further than the diseased bone. By distending the sinus the joint cavity could be slowly filled, and was thus washed out repeatedly. Two drainage tubes were introduced, and the limb fixed upon a posterior splint. Under this line of treatment the discharge of pus was greatly reduced and the size of the joint diminished, a greater range of motion was permitted and the health of the child improved. The discharge of pus, however, never en-

* Since writing the above the disease has recurred in the scar and adjoining skin and in the supra-clavicular glands.

tirely ceased, although the opening into the joint had apparently closed.

In October, 1892, I cut down upon the head of the tibia to the outer side of the ligamentum patellæ, where the enlargement was most prominent the scalpel entering a cavity containing carious and necrosed bone. This bone was removed, and seemed to be the remnant of the epiphysis. The epiphyseal cartilage and the cartilage of incrustation appeared to be intact. A thin layer of new bone not yet completely ossified surrounded this cavity. Without further details, it suffices to say that there has been a progressive diminution in the size of the cavity, until now there remains only a narrow sinus three-fourths of an inch in depth.

At the present time the following symptoms are noted: Motion of knee nearly normal, flexion and extension being almost, but not quite, complete. The tibia is about one-fourth of an inch longer than in the right leg, and the circumference of the joint about one-third of an inch greater. Firm pressure causes no pain at any point, and the child walks with ease, although with a limp, that seems to be due to the increased length of limb rather than to any sense of discomfort.

The cavity left after removal of the necrosed and carious bone seemed to be greater in extent than the area occupied by the epiphysis at this age, but the surfaces on both distal and proximal sides were so smooth and even that they could hardly be other than the epiphyseal cartilage and the cartilage of incrustation. This increased area may have been the result of pressure of former inflammatory products, and may account for the lengthening now present.

The disease, in this case, I believe to have been primarily an epiphysitis, non-tubercular in character, and the inference that may be drawn from it is that when the joint is involved as a sequence of such an inflammation, either from the bursting of an abscess into its cavity, or otherwise, it may be successfully treated by freely opening up the epiphysis from without and attacking the disease at its source, provided the joint be not too seriously damaged. I am quite confident that at one period in the history of this patient it would have been considered by some surgeons a proper case for excision. I have treated a number of cases similar to this, in some of which recovery took place with excellent limbs. In others, subsequent erasion or excision was required.

It is conceded that many cases of joint disease in children, whether tubercular or otherwise, begin in the epiphysis and involve the joint subsequently. Why may not, then, an early and

free opening into the diseased epiphysis, with drill or gouge, prove to be in the end the most conservative surgery? The relief of tension and the drainage thus secured, together with the increased facility for local medication in tubercular processes, may prevent extension to and subsequent disorganization of the joint. It has been my experience to hear and to read but little of early operation in this disease, but to hear much of arthrotomy, erasion and excision for the pathological conditions that are so often the results of epiphysitis. With these latter operations chiefly in mind, the surgeon is apt to caution delay in interference until such a time as one of them is clearly indicated. Early exploration of a diseased epiphysis, if carefully conducted, can in no way diminish the patient's chances of recovery, and may be the means of avoiding, subsequently, more serious operative measures.

DISCUSSION.

Dr. Fowler:—This case presents several suggestive points. In the first place, was the case one of sloughing, and subsequent perforation of the appendix, due to interference with its blood supply, or was it an ordinary case of appendicitis which chanced to occur in a herniated appendix? Secondly, the difficulty of making a diagnosis without exploratory incision, and third, the length to which one may go under those circumstances in the attempt to remove the appendix.

I think it is pretty well settled now that the efforts of the surgeon should be directed, wherever possible, to the removal of the appendix itself. Any half-way measure, such as opening the abscess cavity and draining it, which some years ago was considered a conservative or early or preventive operation in this country, and is still so considered by the French surgeons, to-day is a very unsatisfactory operation. I believe in the present case, however, no further interference was justified. But the case being such as justified it, two courses are open. One, an attempt to break up the adhesions through the necessarily small opening, bringing down that portion of the cæcum to which the appendix vermiformis is attached, and after cleansing as far as possible to pack around it with aseptic gauze; and the other, to immediately proceed to a laparotomy along the usual incision for the purpose of the removal of the appendix. We would have to be guided to a great extent by the conditions existing at the time. If it were found possible to reach the parts and bring them down, surely that would be the safest procedure so far as the general infection of the peritonæum is concerned. There would be less immediate danger

in that direction than there would be in proceeding with an immediate laparotomy. If adhesions were well formed there would be less danger of infection from this direction, but the typical procedure, the patient's condition warranting it, would be to cleanse, as far as possible, the parts, open the abdominal cavity and remove the appendix.

As to the particular etiological factor in this condition, I can easily believe that the appendix, which seems to be especially prone to gangrenous inflammatory conditions, particularly in those cases in which no mesentery is present, may have taken on all of the conditions which have been described, simply from its incarceration in connection with the cæcum itself. I confess I see no way of differentiating between the ordinary symptoms of either a rupture of the intestine itself following gangrene, which would simulate the condition which was present at the time of the operation, or an ordinary strangulated hernia, or an appendicitis. And it certainly strikes me that the exploratory procedure which was resorted to was the only course left open in the case if anything was to be done at all.

In the matter of the scirrhus of the breast, in about a hundred cases which I have succeeded in keeping track of following operations for removal of the breast, the youngest patient was twenty-six. I have never seen a fibrous carcinoma of the breast in a patient as young as the one reported.

Dr. Lewis:—If I apprehend rightly, that cæcum was already down there permanently, and bound down so that the question of a laparotomy in that case was not admissible unless you tore up adhesions of a great many years' standing. If I remember the paper aright it was the upper three or four inches of the ascending colon.

Dr. Rand:—It was a hernia of some years' standing in which there had been trouble a great many times, and a number of physicians had been called upon to apply taxis at frequent intervals. The hernia was about the size of a child's head, and everything except a few inches of the ascending colon was firmly adherent within the sac. The cæcum was tied down to the inner wall of the sac for its entire length ; the appendix was adherent to the cæcum. The abdominal cavity proper was probably infected some time before operation.

Dr. Lewis:—The only point that occurs to me is a general one, or rather there are two points. First, in regard to that appendix. In an appropriate case there would be but one thing to do : tie off these adhesions as if it was a mesocæcum, and remove the appendix, of course when you could.

There is a still further question in these cases of old hernia in tearing up all the adhesions, and that is one that I am rather conservative about. Unless they are adhesions that can be torn away without doing much damage, I usually have not done it in those very old herniæ where the adhesions have been so long continued that they are practically one solid membrane.

As to the question of breaking up adhesions: Large and irreducible femoral herniæ do not come under our observation as often as do cases of inguinal hernia. In inguinal hernia it has been my habit to persist in the effort at detaching the intestine from the hernial sac. I think in some cases I have applied as many as fifty or sixty ligatures, the operation lasting sometimes as long as three-quarters of an hour. The difficulties are many; the dangers are considerable; the tax upon the patience of the operator and the strength of the patient is very great, and yet, with present methods of asepsis and technique, and particularly with my confidence in antiseptic methods and the absence of fear in keeping the cavity open a long time, I think we are getting, year by year, more inclined to persist in radical efforts.

The same thing obtains in the work of the gynæcologist. In former days, the abdomen being opened and a large fibroid exposed, if it was found to be adherent it was considered to be a contra-indication to further operative interference. But in more recent years we find that large and extensive adhesions in all directions may be safely broken down. Although they bleed very greatly when first detached, as matter of experience we know if we persist until the adhesions are entirely loosened and torn away, the bleeding surface after a while furnishes less and less blood. The vessels which feed the adhesion, as a rule, retract readily after the adhesion is loosened. In old hernia cases, if we are careful not to tear into the bowel itself, the process, although dangerous, does not involve as much risk as has been generally supposed. I don't remember of any instance now in the exceptionally large experience which it has been my fortune to obtain—I don't remember a case which I have finally abandoned, although I expect to in a certain class of old people, who bear operation very badly, particularly in the abdominal region. It is my habit, other things being equal, to endeavor to return the contents of the sac, after breaking up all adhesions, thus giving them the benefit of a radical cure.

Dr. Wood:—I was very glad to hear Dr. Rand advocate exploratory operation in this class of cases, for I am sure it is along that line we are going to get better success with chronic tubercular joint diseases. I think these joint diseases begin in the epiphysis

oftener than we think. In an observation recently made at the German clinic of cases of knee joint disease under the age of twenty, one-half were osseous and one-half synovial. While of the cases over the age of twenty, twenty-five per cent. were osseous and the rest synovial. One-half the osseous cases began in the epiphysis in the femur.

If we could only always diagnose a case where it begins in the epiphysis from one where it begins in the synovial membrane, I am sure our results would be much better. I confess it is not always possible to do that. The point that is of the most importance is acute and limited tenderness; not pain, but tenderness, before there is pus beneath the periosteum. If we look for that, I think we can sometimes make an explorative operation that will relieve the joint of any future infection.

I recall several cases where such operations have been performed before the joint was infected, and diseased bone was found and removed, and the joint escaped further infection and the case went on to successful termination.

The other point is about increasing the length of the tibia, which seems to me especially important. In the Forty-second Street Hospital we have been measuring these cases, and where the tibia epiphysis is the seat of disease we usually find a lengthening. There is one case at present under treatment where the lengthening equals one inch; I think that is the longest. We are apt to think this is a favorable sign in the treatment, for it counter-balances in some respects the subsequent shortening. It seems to be due to the increased vascular supply in the chronic inflammatory condition.

A NOTE ON THE LOCAL TREATMENT OF DIPHTHERIA.

BY W. L. RICKARD, M.D.

The fact that so many different drugs have been suggested and tried in the treatment of diphtheria is positive proof that as yet we have not found an agent that can be relied upon with any degree of certainty.

While the profession pretty generally, for the constitutional treatment, have settled upon one or both of two drugs—tr. ferri chlor. and hydrarg. bichlor.—for the local treatment there are still nearly as many different drugs used as there are physicians to prescribe them.

So many new remedies are constantly being put upon the

market that it is practically impossible for a physician to give each one the thorough trial that is necessary to determine its value; for that reason I consider it a physician's duty to let the profession know of his experience with them, whether it be favorable or otherwise.

It seems to me that the claims for the use of a digestive ferment for the removal of the diphtheritic membrane are rational, and with this in view I decided to give papoid a trial.

Case I.—A little girl, five years of age; the membrane first formed on the tonsils, then rapidly extended to the larynx and nares, completely filling the nasal cavity, and so nearly closing the larynx that on the second day of the disease intubation was necessary to prevent suffocation.

The local treatment from the start had been equal parts of hydrogen peroxide and water, applied as a spray; on the third day I directed that in addition to the spray a freshly prepared solution of papoid, five grains to one drachm of water, be applied with a swab every three hours, after which a small portion of the powder was applied by insufflation.

The action of papoid was soon apparent, the membrane in the pharynx and tonsil dissolving and small portions being detached.

Septic symptoms soon developed, and on the fourth day caused the death of the child.

Case II.—A young man about thirty-five years of age had a very mild attack, only a portion of the tonsils and pharynx being involved.

After all other symptoms had subsided, the membrane remained adherent, various applications having been used to dissolve or detach it, but with no effect. Finally I directed that a solution of papoid, five grains to one drachm of water, be applied with a swab, and then to apply the powder by insufflation, this to be repeated three times daily.

In twenty-four hours I had the satisfaction of seeing the benefit of its use, and at the end of the second day the membrane had entirely disappeared.

This limited experience has given me so much confidence in the use of papoid that hereafter I would not have that hesitancy in using it from the beginning of the disease that I had at first, for if papoid has the power of dissolving diphtheritic membrane that is claimed for it—and my experience would indicate that it has—there is no doubt that if properly used from the beginning of the disease, it will be the means of greatly diminishing the present high death-rate of diphtheria

A FEW WORDS IN REFERENCE TO MERCURIAL POISONING

BY WILLIAM MOSER, M.D.,

Assistant Pathologist to St. Catherine's Hospital, Brooklyn.

The use of mercury in obstetric practice for purposes of antisepsis gives the pathologist an opportunity every now and then to study the lesions which this drug produces on the economy. The deplorable fact remains that so long as mercury is used in obstetric practice, even in quite weak solutions (1-3000 or 1-2000) these cases will occur. The clinical manifestations much resemble those of dysentery, with which it is easily confounded, and even at the autopsy analogous morbid changes are found. In both cases the colon is the seat of important changes. A membrane—a diphtheritic membrane is formed in this part of the intestinal tract. It is usually localized to the colon, but may extend to the ileum (Langerhaus). This "colitis diphtheritica" (Virchow) easily explains the symptomatology. It is difficult to understand why this part of the intestinal tract should be the seat of predilection. The lungs, liver, heart and spleen show nothing characteristic. The stomach, too, in three cases which I saw presented no characteristic lesion. But the kidneys play an important part in the pathology of mercurial poisoning. This consists, as first shown by Salkowski (as the result of experiments) in the deposition of the phosphate of calcium in the epithelium of the kidneys with fatty degeneration. This deposit may at times be seen macroscopically as whitish streaks. A fresh section under the microscope shows the renal epithelium covered by a thin, cloudy deposit, which on the addition of dilute acetic acid clears up with the evolution of bubbles of carbonic acid gas. The nature of the deposit is thus made clear. Prevost reports that this deposit in the kidneys is accompanied by a decalcification of the bones. I regret having made no investigations on this point, as I was not aware of this fact at the time. The blood changes do not aid us in solving the question as to whether or not we are dealing in a given autopsy with mercurial poisoning. Can we from the nature of the lesions just described, deduct positively that death was caused by mercury? No. But they ought to lead us to suspect it. I well remember Virchow making this "pathological diagnosis," basing his opinion on the lesion in the colon and the changes in the kidneys. In both cases his suspicion was confirmed by chemical analyses. In cases in which mercury is given by the mouth in large doses, or small ones long-continued, the

well-known "mercurial stomatitis," loosening of the teeth, and in a few cases necrosis of the lower jaw occur. In short the drug, while of great value in therapeutics, cannot be too carefully administered.

PROCEEDINGS OF SOCIETIES.

BROOKLYN SURGICAL SOCIETY.

Eighty-first regular meeting, December 15, 1892, Dr. Lewis in the Chair.

SCIENTIFIC BUSINESS.

Paper by Dr. L. S. Pilcher on, "Removal from Within the Fold of the Broad Ligament of a Low Placed Fibro-Myomatous Tumor of the Uterus."

CASES.

Mrs. R., æt. twenty-nine, for two years had been the subject of an inflammatory tumor just above and to the outer side of left knee. It suppurated early, and has been discharging ever since. When admitted to hospital August 24, last, the knee-joint was swollen; a hard mass with a suppurating cavity, discharging by an open sinus, was present just above and to the outer side of knee. Flexion of joint limited, and walking is interfered with by tenderness of joint.

August 31. Operation.

Dr. Pilcher:—Cases of Exsection of Knee-Joint. I produce here a little boy who was brought to the Methodist Episcopal Hospital with tuberculosis of the knee-joint of long standing. The disease was very extensive. Not only was the usual horse-shoe incision with the convexity upward made, but the extension of the disease up underneath the anterior muscles was such as to make it necessary to prolong the incision some distance upwards. I also present another case of an adult operated on November 20, 1891. In this case the disease had become arrested, and anchylosis in a condition of deformity was already present. The joint was opened as usual. After operation both patients made an uninterrupted recovery.

In connection with these two cases I wish to present a case of fibro-plastic tumor affecting the synovial sac of the knee, operated upon by me in August last.

In proceeding for an operation for its relief, the external cavity was laid open to its whole extent, and the pyogenic membrane

which lined it, was dissected out. When that was done, there was found to be a mass of tissue infiltrating the substance of the vastus externus, the exact nature of which it was difficult to determine. It seemed to be desirable, however, to remove it, so I proceeded to dissect it out from the normal tissues in which it was placed. After I had dissected it out from these extra-articular tissues, I found it involved a portion of the synovial sac of the joint itself, and that the joint cavity was largely filled with an abundant secretion, I then, pursuing the policy of its absolute removal which I had begun, proceeded to open the synovial sac; a large amount of serous synovial fluid was evacuated, and all that portion of the sac that was involved in the growth was excised. That having been done, the opening was closed by catgut sutures, as though it was an opening into the peritonæum. The external tissues were then closed by layers of sutures, and the limb was placed upon a Volkmann's splint, and without complication primary union throughout the whole extent was secured. So that at the end of two or three weeks, when the primary dressing was removed, it was entirely healed. There has been no further involvement of the joint; she flexes it to a full right angle; she walks upon it without any complaint almost as freely as she ever did, and it remains only now as a matter of history or speculative interest as to what the character of the growth was that had attacked the limb and had involved the joint in that manner.

BONY ANCHYLOSIS OF TEMPORO-MAXILLARY ARTICULATION.

I present now a case of anchylosis of temporo-maxillary articulation. When this young lady was in her third year she fell from a height and struck upon her chin, driving the lower jaw with force against its articulation with the temporal bone on either side. The immediate result was an extensive ecchymosis on both sides of the face with pain and swelling, and gradually thereafter an increased difficulty in opening the jaw and moving the mouth, until finally, by the end of the year, the jaw was absolutely set. She is now eighteen years of age, so that during this period of over fourteen years she has been entirely unable to open her jaw. She came to the hospital for relief, and was operated upon by me two weeks ago yesterday. There has been naturally a very defective development of the lower jaw in consequence of its nonuse, although the teeth have erupted and some have fallen out already. It was impossible to tell whether one or both of the articulations was the subject of anchylosis. She complained the most, however, of tenderness on the right side. I determined to

expose the joints seriatim by an incision along the lower edge of the zygoma, detaching the masseter muscle and deflecting it downward, and thus exposing the joint, being careful in making my incision to avoid injury to the parotid gland and to the facial nerves. This line of incision enables us to escape with certainty any injury to the facial nerves, and a slight amount of care should keep us from any injury to the parotid or to its duct. The joint on the right side was easily exposed. It was firmly fixed. There were no evidences of any exostosis, and it was impossible to tell exactly what its condition was until I had made a section of the neck of the condyle. This having been done, and the condyle turned out, I found that though it was deformed, it was not adherent, so the main point of the fixation was not in this joint. I removed the entire condyle and its neck, the coronoid process, and a portion of the body of the jaw underneath, so as to give abundance of room between the body of the jaw and the temporal bone above to prevent renewed anchylosis of inflammatory character. For forty-eight hours, in one angle of the wound, I left gauze for the purpose of drainage, and when that was removed a suture was put in. Primary union throughout its whole extent ensued. Upon this side, however, the same method of exposing the joint having been followed, it was found that there was no joint, but that the temporal bone and the inferior maxilla were as well knit together as if they were a single bone. With the chisel and mallet I divided what should have been the neck of the jaw, having not a simple narrow neck, but having a broad belt of bone to chisel through. Having divided it across below the temporal bone, I then proceeded to try and scoop out the portion of the bone which was adherent to the temporal bone that properly belonged to the jaw, and in so doing I was able to tear out what was practically the remnant of the condyle. I proceeded then to remove the upper part of the body of the jaw upon this side, and the coronoid process as well, so as to bring the rounded part of the jaw to rest here in its new bed. The amount of manipulation which was required on this side was very much greater than on the other. I used a drainage tube here. For the first two days I had a mesh of iodoform gauze, and then replaced it with a drainage tube. I removed the drainage tube some four days ago, and sound healing throughout is now accomplished. There has been no infection in it, and we have had primary union. But what is best of all is her ability to open her mouth freely as is apparent to all.

FRACTURE OF BASE OF SKULL. FRACTURE OF HUMERUS WITH DELAYED UNION.

The case which I now present is of a young lad who, early in

the fall, the 26th of September, fell from a train and sustained a fracture of the base of the skull. He lay in a comatose condition for some time, having all the characteristic signs of fracture of the base of the skull. Gradually he came out from this, having had no signs of infection following it. His mental condition gradually cleared up, and the evidences of damage at the base of the skull have all disappeared. The chief interest that attaches to the case now is the fact that he sustained at the same time a comminuted fracture of the shaft of the humerus. For six weeks there was no attempt at repair at the site of the fracture. During this time the fracture was kept in its place simply by coaptation of splints, all attention being directed towards his cerebral condition. It being evident now that he was going to get well, the lack of repair in the humerus demanded further effort on our part to secure its healing. There was considerable deformity present from the slipping by of the fragments. In order to counteract this I applied counter-extension as he lay in bed, a counter-expanding band passing underneath the axilla and fastened to the head of the bed, and a long side splint from the axilla down to the foot of the bed, so that I had the whole limb pretty thoroughly immobilized. Then the elbow being fixed in the right-angle position, an extending force was applied by means of pulley and weight so as to produce a continued extension upon the lower fragments of the humerus, and when they were adjusted, the whole was secured in place by a plaster bandage. This remained in place for some weeks. At the end of four weeks the apparatus was taken down, and the fractured bones found to be in fair line, and a tendency to stiffen manifested itself, and he was put up in the right-angled wire splint that he has on now, and which is now being removed, and was allowed to go home; that was two weeks ago. We used from seven to thirteen pounds weight, beginning with seven pounds for extension. The fracture is now thoroughly consolidated.

UNUNITED FRACTURE OF HUMERUS, WITH INJURY TO THE MUSCULO-SPIRAL NERVE.

At a recent meeting of the Society I had occasion to speak of injury to the musculo-spiral nerve, and I present to you now the young man of whom I then spoke. A year ago last September he sustained a comminuted fracture of the shaft of the humerus, being struck by a railroad train. Non-union resulted. I described the case in connection with a case of non-union that I operated upon, and which I presented the other night. In the course of the first operation for his relief the musculo-spiral nerve was in-

jured; later, at a second operation, the musculo-spiral nerve was secured, and the ends brought together though with much tension and sutured. Nevertheless there is still considerable musculo-spiral paralysis. Supination and extension of the hand are still interfered with. In this case union was finally secured by using a large plate, which was secured upon the adjacent ends of the two fragments by screws and held in place for a number of weeks. The plate was a steel plate about three inches in length, by three-fourths of an inch broad, and one sixteenth of an inch in thickness, and was left in six weeks.

Dr. Burge:—The cases speak so thoroughly for themselves that there is very little left to say. I can say how interested I have been and how successful they have been. I would like to ask in regard to the first two knee cases whether Dr. Pilcher regarded them tuberculous.

Dr. Pilcher:—Undoubtedly.

Dr. Burge:—In the case of the adult, the third case, did you regard that as tubercular in any degree.

Dr. Pilcher:—I am not positive in my own mind as to the diagnosis of the case. At the time I operated upon it I regarded it as tubercular. In this case, the synovial membrane, which was affected, was a full quarter of an inch in thickness, like a dense fibrous plaque involving the synovial membrane. I have thought possibly that it may have been not tubercular, but that it may have been syphilitic, and yet there is no history of infection or previous disease which might render her subject to that. The pathologists' report upon the growth was simply that it was inflammatory tissue. So I am driven back to the idea that we had a primary tuberculosis in the peri-articular structures, and a consequent inflammatory condition, which produced this tumor-like formation. It was an extremely interesting case, pathologically as well as surgically.

Dr. Burge:—Did you test at all the effect of anti-syphilitic treatment in that case?

Dr. Pilcher:—I did not.

Dr. Wackerhagen:—In those operations upon the condyles of the jaw, I would like to ask Dr. Pilcher whether he noticed dilatation of the pupils or any marked irregularity of the pulse while using the chisel and mallet.

Dr. Pilcher:—If there was anything of the kind I don't think it was noticed for the reason that the face was covered by the ether cone and the pupils were not being examined. There were no symptoms manifested of any kind that caused uneasiness.

Dr. Burge:—In the last case that the Doctor presented, I was very much interested in his ingenious method of making counter-extension, but I could hardly see what the indications were for that. Generally we have very little overlapping of the fragments in fracture of the humerus. The weight that was applied seems large. I don't say this as a matter of criticism, but to call out remarks.

Dr. Pilcher:—There was great over-lapping in the case, and extension was applied until the tendency to over-lap was overcome. And when we got it there we held it there until the parts became pretty well consolidated. We were compelled to treat him as he lay in bed in consequence of his other injuries. Otherwise we might have had him up and about. He was still more or less affected in consequence of his cerebral injury, and we had to hold him in bed.

Eighty-second regular meeting Jan. 5, 1893. President in the chair.

SCIENTIFIC BUSINESS.

Paper by Dr. J B. Warbasse: "A Study of Seventeen Cases of Empyæma."

CASES.

Presentation of case by Dr. Lewis and discussion.

Dr. Lewis:—This lady, four years ago, slipped on a smooth floor or pavement and her left leg and thigh twisted; she felt as if something gave way. She suffered a great deal of pain in the thigh and was treated for a number of weeks at Roosevelt Hospital in New York by external applications and then ceased treatment, but has since suffered more or less pain. At the end of a year she noticed that her left thigh began to swell, but she had no special treatment until six or eight months ago when she came under my care. At that time her left thigh was very much enlarged and a marked bruit was present anteriorly about the middle of the thigh. After due discussion the femoral artery was tied, the bruit ceased and the tumor began to diminish somewhat. After a while, however, when she began to get about, the bruit returned, but in a different place, i.e., on external surface of thigh about the middle. I may say that I tied this artery below the profunda and cut off all circulation from the femoral, and I presume that the collateral circulation has caused the bruit to return in some of the arteries there. This tumor has increased somewhat in size, nearly an inch in circumference within the last three months. There has never been any pulsation in it. It does not trouble her much except at night.

The lady saw some surgical gentlemen in New York, who advised immediate amputation of the thigh, but I confess that I shrank from submitting her to such a severe thing unless it was *sine quâ non*, and I tied the artery first and have brought her here to this surgical society to see what is best to do with her. She is a respectable, nice woman, and I want to be conservative with her and do that which promises the best for her. I am surprised to find the bruit absent to-night, because it has been increasing of late.

I hope this case will be discussed freely, with suggestions as to what is the best thing to do with it. I might say that after the tying of the femoral there was not the slightest disturbance at all; she just lay in bed four or five weeks and got up and went around and was very free from pain for a while, and was quite comfortable.

Dr. Bogart:—It seems to me that before doing anything so radical as an amputation, I would tie the vessel again higher up, and I think that as a rule in these cases it is a pretty good plan to tie the vessel above the bifurcation. I remember one case in which the aneurism was situated somewhat similarly to this in which a good result was had by tying the common femoral and without there being at any time a likelihood of losing the limb. I can't see that there would be any special advantage in tying the external iliac over tying the common femoral. I think that is what I would do, having in mind that that might or might not be sufficient on account of the anastomosis posteriorly. I would try that and if I found after a few weeks that that was not sufficient I would go further and make an amputation.

Dr. Wood:—I think I would differ from Dr. Bogart, because I would have another diagnosis in regard to the case. I recall a tumor in the thigh with a well marked bruit and some pulsation, a tumor somewhat smaller than this with symptoms of aneurism more marked than in this case. A large incision was made with a view of exploration as well as of tying the vessel, and a close inspection gave a diagnosis of pulsating sarcoma.

Now, this tumor seems to be very closely adherent to the femur. It is very large, extremely large for an aneurism, even with its accompanying inflammatory conditions, for that section of the body. The growth being slowly increasing in size, without an increasing pulsation or an increasing bruit, would point towards the solidification of a preceding pulsating sarcoma, and therefore I should make a diagnosis of malignant tumor, rather than aneurism, and would suggest more radical measures.

Dr. Pilcher:—I take it that the first question to be settled is the

diagnosis, of course. With the exception of the bruit that has been heard, there would seem to be not much that would tend toward the idea of an aneurism. The presence of a bruit, while raising the suspicion of an aneurism, would of itself alone not be a very strong evidence of the existence of an aneurism. As has been suggested by Dr. Wood, the sound is easily explained by the blood currents through enlarged vessels, and dilated spaces containing blood.

All of the history of the case points to a malignant growth, probably sarcoma. I should certainly not hesitate to make an explorative incision into it, and if that incision should confirm the diagnosis of sarcoma, proceed at once to the amputation at the hip joint. I should think that all the evidence that we have thus far in the matter would point toward the existence of a sarcoma, and necessitating, if any treatment at all is to be given to the case, amputation at the joint. The probabilities are, however, with so long a period of growth that it would do no good whatever and my general feeling with regard to the case is that the best interests of the family would be to continue to temporize and make the best of it. I am inclined to think that would be the way I should treat it, and yet, if there is the bare possibility that there be no secondary trouble above, there might be that possibility, and it might be well to give the woman a chance. I think she could bear amputation at the hip joint; such amputations are apt to be much better borne in chronic conditions like this than when it is done for an injury.

Dr. Delatour:—The case resembles very much one that was operated upon to-day in our service at the Methodist Hospital, except that the patient is somewhat older and the growth is considerably larger. In this case there was a spindle-shaped tumor occupying about the middle of the femur. The diagnosis of sarcoma was made and amputation advised, and everything was prepared for the amputation and a section was taken out. A slide was immediately prepared and placed under the microscope, and within about seven or eight minutes the diagnosis was confirmed by the microscope and amputation at the hip joint was proceeded with.

I think this is higher up than the one we operated on to-day, and the probability of recurrence, I should think, judging from what I have seen of these cases, and I have seen several of them in the last year or two, would be very great.

The thing I wish to speak of especially is the application of the microscope in making a positive diagnosis at the time of the operation. Even in a smaller growth at an earlier period, an incision

might be made into the growth and a diagnosis made on the spot.

Dr. Wunderlich:—This appears to me to be a case of osteo-sarcoma of the femur; and owing to the extension of the disease upward, I believe if amputation at the hip joint is done there is great probability of recurrence.

Dr. Lewis:—I might say that my own opinion was at first in favor of malignant tumor, and perhaps has been all the while, but I thought perhaps I might starve it out, and there was a question whether there might not be a question of expediency, even if it was a sarcoma, to limit its growth. As I said, I hesitated to submit her to an amputation, and this really hasn't made any great progress within eight months, so that any operation that could have been done then could be done now; she is not particularly cachectic. I should feel like being very conservative in giving her advice to have the limb amputated at the hip joint. It would be a question whether her life would be prolonged at all. She is in that class of life where she has to use her leg, and the first question would be whether she would recover, and then, if she did recover, she would be disabled, and the question would come whether with her little family, that would be best.

In the tying of the common femoral would that starve it out?

Dr. Pilcher:—I have no data on that point. In general I am inclined to think that the degenerative process would not be affected materially by diminishing the blood supply. As regards preventing their progress, what experience there may have been in that line I do not know. If there was an acute inflammatory condition I should suppose diminishing the blood supply would affect it, but with a degenerative process I should think you could hardly expect any favorable influence from diminishing the blood supply.

Dr. Delatour presented a case of gun shot wound in the neck.

Dr. Delatour:—This young man was out gunning on the 6th of September, and through an accident the gun exploded and the charge passed through his neck, carrying with it three and a quarter drachms of powder and an ounce and an eighth of No. 6 shot, besides felt pads. The whole thing passed through his neck producing a wound of considerable size. Fortunately there was a young man with him who saw the gravity of the situation and thrust into the wound an handkerchief. That was left in twenty-four hours.

The charge entered in front and passed out very close to the median line behind. It went through as a single mass and through the posterior opening the transverse process of the vertebra could

be felt very distinctly, and the vessels of the neck lay just on the inner side and could be felt pulsating through the inner opening.

I was asked to see the case with regard to what should be done, especially as regards secondary hæmorrhage. The muzzle of the gun must have been close to the neck or else there would have been more scattering before the charge struck him. The amount of contusion apparent was very slight and for that reason I advised against any operative procedure, but advised keeping the boy on his back in bed with gauze packing for drainage. This was done and the wound healed so that by the first of November the entire wound was closed, but since then it has been open at times and small pieces of clothing and felt have come away and then the wound would close up again. Now it is completely closed. Behind here we find a ring of shot underneath the skin, evidently the shot becoming scattered as it was making its exit.

The question was whether it was proper and best to tie the carotid on account of the immediate proximity to the vessel, the carotid and subclavian both being near. It seemed to me that the amount of sloughing that was going to take place from the wound would be too slight to invade the vessels, and if we did tie the the common carotid or subclavian the patient would be liable to just as much danger from secondary hæmorrhage as if we had not operated.

Then another point, as to the amount of disability he was going to suffer permanently. At the time I saw him he had absolutely no motion of the left arm; I imagined that the trapezius and the spinal accessory nerve were injured; and I think that is the fact, for he can raise his arm about to the right angle, but he cannot continue it above that.

Then there is a point of nervous origin, his peculiar condition of sweating at times in the palm of the hand, and that has developed since the injury.

The question I wish to raise is whether it is best to ligate the vessels under such circumstances.

Dr. Pilcher:—It seems to me that the result of this case is the best and most satisfactory answer to the questions put to us. He would want to be a bold man who would criticize unfavorably the course which has been pursued.

Dr. Delatour:—Does it not seem reasonable to suppose that any ligature that might have been placed at an early stage would have been useless, as recurrent circulation would be re-established by the time sloughing had occurred. One reason why I present this especially is because I was criticised for not having advised

that course. My position is, of course, sustained in this case, but the question is whether it would be wise in all similar cases.

Dr. Pilcher:—It is a fair thing for the surgeon to use his judgment, according to the particular time and particular case.

Dr. Cochran:—I would let the shot alone. I think the patient has been doing very nicely, and as long as he is improving I think I should wait for something to turn up. As far as the disability in the arm is concerned, he may continue to improve.

Dr. Lewis:—I think the summary of this case is that the judgment of the surgeon was excellent and that it is impossible to enunciate a principle that will apply to all cases.

Presentation of specimens by Dr. Pilcher.

PAPILLOMA OF OVARY.

It has been more than a year since I had the pleasure of presenting a small papilloma of the broad ligament, a growth which was entirely distinct from the ovary. I have the opportunity of presenting a second papilloma, which has its origin in what might be called the hilum of the ovary in this case. The patient from which this tumor was removed presented herself at the Methodist Episcopal Hospital quite recently, with a peculiar bi-horned growth swinging out from the pelvis, which seemed to be connected with the uterus, one horn extending over into the right side and the other over to the left. Each presented all of the signs of myo-fibroma of the uterus and the diagnosis that was arrived at was a multi-nodular uterine myo-fibroma. She was subjected to operation with the idea that possibly the removal of the ovaries might be sufficient to control the further development of the growth, the woman being thirty-four years of age, an atrophy of it might be brought about Upon opening the pelvic cavity a singular condition of affairs was seen. The uterus was enlarged, being the seat of multiple fibrous nodules, and formed on one side one of the horns previously recognized, while on the other side was a tumor which was adherent to the uterus, and thus gave the sensation externally as if it was a part of the uterus and which formed the other horn. *This* was a cyst and after a little manipulation it was separated from its attachments; it was peeled off from the uterus, and was shelled out from the folds of the broad ligament and was finally removed by tying its broad ligament attachments, the ovary being removed with it. In order to get it out from the pelvis it was necessary that its size should be diminished as it lay in situ. For this purpose the patient was put in the elevated pelvis position, the tumor was surrounded by proper sponges so as to close off the abdominal cavity, and a freeincision made into it. A mass of vis-

cid material, dark in color, was evacuated, and then at once it was found that the interior of the cyst was occupied more or less with the abundant wart-like material characteristic of a papilloma of the pelvis. Upon one side of the cyst, spread out upon it, is the greater portion of the ovary, showing that the ovary itself, or a portion of the ovary was not involved in the growth, but that it sprung from the stroma at the attachment of the ovary to the broad ligament.

The ovary upon the other side was also removed. A considerable degree of trouble was experienced in staunching the hæmorrhage from the area on the summit of the uterus from which the cyst had been peeled off, since the veins coursing along the peritoneal covering of the uterus were somewhat enlarged. A persistent oozing down deep in the pelvis made it necessary to have recourse to a tampon. This sufficed to staunch the hæmorrhage from the deeper portion of the cul-de-sac, and the next day, twenty-four hours later it was removed through the drainage tube. It was necessary for two days longer to retain the drainage tube in its place in consequence of the free serous flow tinged with blood. Upon the third day it was possible to remove the glass drainage tube and the opening was closed with the suture that had been put in place before. The patient has made an uninterrupted, undisturbed convalescence. She has had no unfavorable symptom whatever from the termination of the operation to the present time.

DEEP LYING SUBSEROUS FIBROMA OF UTERUS.

At the last meeting of the Society I had the opportunity of presenting a specimen of deep lying subserous fibroid tumor of the uterus, and of making some remarks upon the treatment of such conditions Immediately thereafter the patient, from whom this specimen which I now present was removed presented herself for treatment. This was the case of a negress, some thirty-nine years of age, who had been gradually developing symptoms of pressure from the existence of a pelvic tumor, until finally the pain and disability which she experienced became such as make it impossible for her to earn her living, and made it necessary for her to submit herself to whatever was required for her relief. The course that was pursued was the same as was dwelt upon by me at the last meeting; the tumor was fully exposed by the elevated pelvis position and free incision of the abdominal wall. Incisions through the peritonæum from the lateral incision through the broad ligament, were made both anteriorly and posteriorly, and then the growth was enucleated, until finally division of the vaginal attachments and the removal of the entire organ. Then followed the bringing down of the ligatures that may have been applied at various points

into the vagina for purposes of drainage below, and lastly after all this had been done, was made a suture of the peritonæum, deep in the pelvis, so as to close the upper peritoneal cavity from all those portions that had been denuded, so as to leave no raw surface for subsequent oozing, or subsequent adhesions of any kind to occur. It is now eight days since this operation was done. Indeed, the two operations were done on the same morning and there have been no unpleasant symptoms of any kind in connection with this case, and the woman has passed on uninterruptedly to convalescence.

Eighty-third regular meeting, Janurary 19, 1893.

Dr. Pilcher in the Chair.

SCIENTIFIC BUSINESS.

Paper by Dr. Wunderlich, "On the Relations of Food to Hæmophilia and Purpura Hæmorrhagica."

CASES.

Dr. Bogart presented a case of deformity of the right foot.

Dr. Pilcher presented an hæmophiliac, who had been amputated at the arm.

Eighty-fourth regular meeting, February 2, 1893.

President Lewis in the Chair.

SCIENTIFIC BUSINESS.

Paper by Dr. W. M. Friend, "Lymphatic Obstruction with Presentation of a Case."

SPECIMENS.

Dr. Pilcher presented a portion of the sigmoid flexure of the colon removed for carcinoma, and also a carcinoma of the vagina.

Eighty-fifth regular meeting, February 16, 1893.

President in the Chair.

SCIENTIFIC BUSINESS.

Dr. Bogart read a paper entitled, "The Treatment of Simple Fracture of the Shaft and Lower Extremity of the Femur, at the Methodist-Episcopal Hospital, with an analysis of thirty-eight cases, being the total number admitted to the hospital during the five years ending October 31, 1892."

CASES.

Dr. Wood:—In view of the fact that within the past year there have been some five or more cases of cure reported from the operation of tapping in the cases of hydrocephalus, I have brought this child here to see whether the operation would be considered desirable. Although the birth was a difficult one it was not due to the

head. The mother is very clear in her history of the case, and a well-known physician here in Brooklyn delivered the child; his diagnosis being a transverse presentation. For the first nine months the mother is very positive there was no enlargement of the head. At that time the child had acute cerebral symptoms, after which convulsions developed and the head began to enlarge very rapidly. At the age of one year the head was a little less than twenty-two inches in circumference. Soon after that time it stopped enlarging, and from that day until nearly the present time the head has remained practically stationary. However, within the last few months, there is a progressive enlargement, and at the present time the head measures twenty-seven inches. The child's intelligence is remarkably good. The boy is not able to walk. The mother is very anxious to have something done if possible, because the head is now rapidly enlarging.

Dr. Wight:—A case of that kind, as it is no doubt hopeless without an operation, and as there is some possible hope of saving him with an operation, ought not to be abandoned without an effort. I think I would be inclined to advise an operation. I think it would be permissible to operate, and the perils of operation are much reduced by antiseptic surgery.

I am reminded by the appearance of that case, of one that was presented to the Medical Society of the County of Kings many years ago by a medical man who is now dead, as a case of hypertrophy of the brain. I think the head was larger in that case than in this one. There is a good deal of water in this now. If some of the skull were removed and some of the water taken out, it might be improved. I am reminded of another clinical fact that came to my attention a few years ago, a case of compound fracture of the frontal bone of a child. The child fell down some distance and broke a portion of the skull. Some year or two later, I do not remember now the exact time, that patient had acute meningitis, and fortunately, at the seat of the injury it opened and a large quantity of serous fluid oozed out. It was almost fabulous; towels were wet constantly with this blood. And it discharged in this way for a week. The patient recovered.

Dr. Rand:—It seems to me that anything which holds out the least hope of improvement is justifiable in a case of this kind.

Presentation of a patient who had been operated upon for radical cure of hernia.

Dr. Pilcher:—Some two weeks ago I had the privilege of inviting the members of the Society to be present at an operation for the radical cure of hernia, and some of the members of the Society

did me the honor to be present. I have the pleasure of presenting the patient here to-night.

The peculiarity attaching to this case was that, as far as I know, it is the first one in which the special method that was advocated or introduced by Dr. Kocher, of Berne, and which was described in the December number of the Annals of Surgery, has been practiced here, and I was specially interested in the trial of it, and have proposed to put the patient to the full test as to its value. It is only two weeks since the operation and he has been up now for two days, and might really have been up earlier had there been any special necessity for it. The sac was a medium sized scrotal sac, and acquired indirect inguinal hernia. The man had presented himself to the hospital for the purpose of having his hernia cured if possible. The external ring was freely exposed and the sac was freed up to the external ring, and then with some tension it was drawn down and its attachments along the inguinal canal were separated, according to the directions of Kocher. A small opening was then made through the aponeurosis, just outside the site of the internal ring, and a pair of forceps being passed through this and through the external ring, the tip of the sac was seized and the sac thus being folded upon itself was drawn in and through the canal and out by the artificial opening. Here, having been firmly twisted upon itself it was laid down over the inguinal canal, being finally fastened in place by the sutures which were applied to close the wound. Union is now firm. There is no sense of weakness or straining, and the patient is about to be discharged from the hospital.

Dr. Warbasse:—I should like to present a specimen, the history of which case may be recited briefly, as follows:

An Italian laboring man, thirty-five years old, with a history of gonorrhœa six years ago. The gonorrhœa was followed by an infiltration into the perinæum, which was incised and pus liberated. Six months later spontaneous rupture occurred in the perinæum with the discharge of pus. Two years ago the patient developed acute local symptoms again, and spontaneous fistula occurred, this time on the upper and inner side of the left thigh, with evacuation of urine through the fistulous opening. Since that time there has been an almost constant discharge of urine from this sinus in the left thigh.

Ten days before admission to the Methodist Hospital, in the service of Dr. Pilcher, he developed very acute symptoms locally; the perinæum, the groins and buttocks became the seat of an inflammatory process, swelling, tenderness and pain, which gradu-

ally became worse. The patient became prostrated and was admitted into the hospital in a very deplorable state. The perinæum was the seat of a necrotic area, the size of the palm of the hand. The buttocks were infiltrated, very painful and tender. Any attempt to introduce a sound or catheter into the urethra was of no avail, and the patient's general condition was very low. He was in a state of profound sepsis The local condition was treated, a large abscess was opened into, and a considerable amount of pus mixed with the urine evacuated, and the necrotic tissue was cut away. The local condition under treatment constantly improved, but the patient's general condition did not. He continued to pass a normal amount of urine, about half through the penis and the other half through the sinus in the thigh. The urine contained a considerable amount of blood and pus. On the sixteenth day he died in a condition of exhaustion and sepsis.

The autopsy by Dr. Slee showed a necrosis; the bladder was found thickened, the mucous membrane covered with earthy deposits; the prostate broken down into a mass of necrotic débris involving the bladder wall; and the tense, fibrous stricture at the beginning of the membranous urethra. This very interesting condition, which I show you here, was discovered in the left kidney; a stone of coral form occupying the whole pelvis of the organ, and the right kidney the seat of a compensatory enlargement.

Dr. Pilcher:—In a recent discussion at the New York Surgical Society, Dr. Lange stated, in connection with a case presented of stone in the kidney, in which there had been no symptoms pointing to a stone in the kidney before, in cases which he had had to do with himself where stone in the kidney had been found by him, the symptoms had rarely pointed to it. And in repeated cases where he had expected to find stone in the kidney he had found none at all. There were no symptoms referable to the kidney that were complained of by this man, whose case is now reported by Dr. Warbasse. while it is evident that this extensive calculus was a matter of long duration, probably antedates in its inception much of the perineal trouble he had complained of.

Worthy of notice are the dilatations of both the ureters together with general thickening of the wall of the bladder, and the chronic inflammatory condition it presents. The absence of the prostate body, its destruction, is worthy of remark, the stricture having been in the membranous portion of the urethra.

Dr. Slee:—I would like to ask if the character of the calculus had anything to do with the symptoms presented?

Eighty-sixth regular meeting, March 2, 1893.

President in the Chair.

SCIENTIFIC BUSINESS

For G. R. Fowler, Dr. Delatour read the following papers: 1. "Varix of the Saphena Vein Simulating Strangulated Femoral Hernia."

2. "Successful Removal of a large Fibro-Cystic Tumor of the Broad Ligament at the Third Laparotomy."

3. "Four Cases of Amputation at the Hip Joint."

CASES.

Dr. Wood:—The interest in this case is chiefly in her history. I first saw her in February, 1891. At that time she was suffering from a well marked cyphosis. She gave a year's history of abdominal pain, stating that the prominence in the spine had appeared about two months previous.

A plaster of Paris jacket was applied and I did not see her until August, 1891, when she said she had worn this jacket three months, and at her request it had been removed and a light brace applied. One month after the jacket was removed she began to have weak feelings in the legs, and two months after it was removed she was unable to walk, and for ten days previous to the time I saw her in August she had not been able to move either extremity. Notes made at that time state that voluntary movement and sensation of the legs are entirely absent, with some œdema.

At that time she had no voluntary power over either extremity, and a pin made no sensation whatever, so far as her legs were concerned; sensation over the abdomen was very much impaired.

I put her to bed and applied traction. I saw her again in November of the same year. In the meanwhile I had been away and she had been moved, and she had not had continuous rest and extension, which was afterward continuously applied.

On November 28, 1891, I have these notes: Still very constipated; abdomen always distended. Unable to feel the prick of a pin at all. Cannot lift either leg, but she has slight movement of the toes, severe spasms on motion, and a good deal of pain, especially at night. It was a case of paraplegia, and I followed out the line of treatment, namely, the application of a corset below the line of the deformity and the suspension of heavy weights, giving the women such medical treatment as indicated from time to time, and potassic iodide daily. Her condition began to improve. In February, 1892, she was able to raise the heel up, but had not power enough to lift the heel from the bed. That was four months after a continuous weight suspension, and the sensation was returning.

At that time I applied a brace and she gradually began to sit up, and in July, 1892, she was first able to walk without any support in the way of a crutch or cane. In September, 1892, she went out upon the street for the first time. Since that time she has been doing her housework, and she has had no return of any symptom of paralysis. She still has some pain and is still wearing the brace.

There were two reasons why I brought her here. First, I think we are apt to consider paraplegia a severer complication in the case of an adult than the facts will warrant, and I think it is well to see a case that has entirely recovered by conservative measures. She had had very little care during all that time, her food had not been such as one could wish for such a person. The other reason is, that we are hearing of the performance of laminectomy in such cases, and I wanted to ask what are the indications for that operation.

Dr. Delatour:—I have at present under treatment a case similar to this, in which I am using the extension in the same way. The case just came under my care within the past week, and so, of course, there has been no chance to see any improvement at all.

I can speak of two cases where this operation was performed, but not for paraplegia. In these cases both have done very well.

Dr. Wight:—I have never performed such an operation. I do not say that I will not, but the operation has never impressed me very favorably. I remember a case I saw a good many years ago with Dr. Seguin, a disease of the spine in a young man of twenty-two or twenty-three years of age. He had pretty complete paraplegia, loss of sensation and motion in the lower limbs, and it was a question what was the cause of it; it was rather slow in coming on. The best diagnosis we could make was that of the formation of pus, and after a time pus was let out and the paraplegia disappeared. The man lived for some little time afterward, and finally died from tuberculosis.

Dr. Rand:—I have had no personal experience with laminectomy. All the cases that have hitherto come under my observation have been those in which traction, jackets or some similar treatment would answer.

I have under treatment at present an old gentleman, sixty-five years of age, with well marked Pott's disease of the lower dorsal vertebræ; this is the oldest case I have ever seen. He was referred to me by Dr. J. C. Shaw. When I first saw him some three months ago the was nearly complete paraplegia, the paralysis also affecting the bladder and the bowels. There seemed nothing to do in this case as he was a heavy man, weighing 190 pounds, but to get

him on a water bed. On this he has been perfectly comfortable. The bladder and intestines have regained their functions, the patient has gained in weight, the deformity has largely disappeared and he is able to extend the feet and raise the limbs from the bed, but cannot yet flex the feet. I have been turning over in my mind the question of laminectomy in this case, and I cannot yet decide that it is one for such an operation. Dr. Shaw coincides with me in this view. There are no clear indications, other than continued or progressive paralysis, to indicate or warrant laminectomy, and I think the doctor's experience in the case presented should make surgeons still more conservative with regard to operation of that kind, even in the paraplegia of adults.

SPECIMENS.

Dr. Wight presented a hat pin removed from the bladder of a man; also the head and neck of a femur showing an impacted fracture.

Eighty-seventh regular meeting, March 16, 1893.
President in the Chair.

SCIENTIFIC BUSINESS.

Papers by Dr. Rand. 1. "Perforation of the Appendix Vermiformis in the Sac of an Irreducible Hernia."

2. "Schirrhus of the Breast in a Growing Subject."

3. "Epiphysitis of the Head of the Tibia."

Eighty-eighth regular meeting, April 6, 1893.
President in the Chair.

SCIENTIFIC BUSINESS.

Papers by Dr. Bristow. 1. "Brief Observations on the Topography of the Appendix."

2. "A New Method of Distending the Bladder in Supra-pubic Cystotomy."

3. "A Case of Acute Suppurative Bursitis of the Pre-patellar Bursa from Gonorrhœal Infection."

Eighty-ninth regular meeting, April 20, 1893.
President Lewis in the Chair.

SCIENTIFIC BUSINESS.

Papers by Dr. Cochran. 1. "A Case of Absorption of Callus after Fracture."

2. A Case of Sarcoma of the Wrist; Amputation." Specimen presented.

Ninetieth regular meeting, May 4, 1893.
President in the Chair.

SCIENTIFIC BUSINESS.

Papers by Dr. Myerle. 1. "Exsection in Vertebral Fracture."
2. "A Modified Volkmann Splint."
3. "A Recently Devised Operation Table for Hospital Use."

H. BEECKMAN DELATOUR, *Secretary.*

BROOKLYN GYNÆCOLOGICAL SOCIETY.

At the regular meeting held March 3, 1893 Dr. Wm. Maddren submitted the specimen (by permission of Dr. Isaac H. Barber) and read the report of a case of ectopic gestation rupturing into the peritoneal cavity; removal of lithopædion three years afterwards.

Annie Hayes, thirty (30) years of age, born in Ireland, has been in this country fifteen years, married twelve years, during which time she has been pregnant seven times previous to her last supposed pregnancy, but miscarried at about the third month in each case. The last miscarriage was about three years ago. (Patient is uncertain as to exact date.)

Her menses have always been scanty and of short duration; for the last four years they have been painful; about three years ago patient noticed that her menses were suppressed for two months. There was at this time a small amount of milk in her breasts. About the end of the second month she was suddenly seized with violent cramp-like feelings in her abdomen near to and on right side of her navel. She called in a physician who sent her at once to bed. She was confined to her bed for three weeks, during which time she was seriously ill. The physician in attendance did not make a diagnosis. At the end of that time she had sufficiently recovered to sit up, and shortly was able to be about her household duties. Menses reappeared at this time and continued to reappear with regularity up to the time at which she was operated upon.

This patient was examined by a number of physicians during her wanderings in search of relief and the following diagnoses were made: Abdominal tumor, enlarged liver, tapeworm, fibroid growth from the omentum, and other guesses as far from the actual facts as one can well imagine. During her suffering she continued to perform her household duties, but not without pain.

In April last she entered the Kings County Hospital, suffering with erysipelas of the face. After her recovery she was examined and advised to submit to an operation, if for nothing else than to

learn the contents of her abdomen, as it was very evident that an explorative operation was the correct thing to do. She refused operation and left the hospital in June.

In November, 1892, she re-entered the hospital, requesting that an operation should be performed, as the pain was unbearable. As she was not in very good physical condition it became necessary to place the patient upon tonics and a generous diet. She responded rapidly under this treatment, being in good condition by the early part of December, 1892. I may state just here that the operator was never able in his own mind to clearly diagnose the case, consequently his operative procedure was purely investigative

The tumor presented itself in the right hypochondriac region; it was irregular in outline and exceedingly hard, somewhat movable, but apparently adherent to the liver or omentum.

The mobility was limited to the region of the gall-bladder. The operation was performed by Dr. Isaac H. Barber, December 14, 1892. An incision was made at the outer border of the rectus abdominis muscle on the right side, this being the most accessible point to reach the tumor. Considerable hæmorrhage was encountered, but was completely controlled before the peritonæum was incised. The peritonæum being opened to about three inches and the intestines moved out of the way, a mass presented itself, which quickly proved to be a lithopædion. It was found to be slightly attached to the intestines, but the attachment was easily separated and the mass promptly removed. There was no evidence of membranes, placenta or cord. The slight hæmorrhage which occurred by detatching the lithopædion was easily controlled. The abdominal wound was closed and dressed in the usual manner with iodoform and bi-chloride gauze, with absorbent cotton and a bandage. On the evening of the day of operation her temperature registered 100.4 deg., in which neighborhood it remained, (never going above it) until the third day, when it dropped to 99 deg., and with one exception never exceeded this point. The diet was, as in all such cases, hot water increasing to liquid peptonoids, milk, and so on.

On the tenth day dressings and stitches were removed, primary union having taken place. Patient discharged from the hospital on January 30, 1893. Since operation she states that there has been a little pain, but only upon stooping over to pick up things from the floor. She has menstrated, the flow being more abundant than previous to operation, and with less pain.

The President :—Specimens of this variety are so exceedingly

rare, the Society is to be congratulated that we have one so large to examine.

Dr. Jewett: I did not, perhaps, get the full history. There should be a history of two ruptures; primary rupture into the broad ligament where the fœtus developed to the fourth or fifth month, then secondary rupture into the peritoneal cavity where it was found free, without any adventitious envelope. The presence or absence of calcareous degeneration would determine whether it is a true lithopædion.

Dr. Skene: I think the point to decide is whether it is merely a macerated skeleton or a lithopædion.

Dr. Maddren: I raised the question for information. I was in doubt myself and I did not feel like making an incision into the specimen as I did not have permission. I suppose that would tend to settle the question, whether the internal tissues show ossification or something of that sort.

Dr. Skene: I think it is simply a macerated skeleton, although in that I may be entirely wrong. You can tell if it is petrified by a more thorough examination, but it looks very much like similar skeletons I have seen that have remained in utero for a very long time. Take, for example, the patient of Dr. O. H. Smith of the Eastern District. This lady had uterine hæmorrhage for nearly, if not over, three months. A singular peculiarity was that she was entirely free from bleeding when she was up and about, sitting or walking, but at night she was seized with a hæmorrhage and she would have to get up in order to stop it. She would send for the doctor and get up in the meantime, and it would be all stopped when the doctor got there. She went on in this way without increasing in size, but after a time began to show signs of septicæmia, which, after a time, became well marked, her temperature running up to 103–4–5 at times. I saw her with the doctor and decided that she had a dead fœtus in utero, and with that temperature we deemed it advisable to rapidly as possible empty the uterus. We did so and found a macerated skeleton, which, while it was not so big and glued together as this seems to be, the appearance of the bones as we removed them was very much like this. I found fluid containing broken down tissues, but no skin or muscles or anything that would present the characteristics of soft tissues. The skeleton looked like this one but not so hard.

Dr. Jewett: There is probably some calcareous deposit in this specimen. It is certainly not completely calcified. They do not all develop into lithopædia. I did not understand how long this was carried.

Dr. Maddren: Three years.

Dr. Skene: If you found any calcareous deposit there would you judge it would be complete in time?

Dr. Jewett: Yes, sir; but sometimes they are carried almost unchanged.

Dr. Skene: It would be well to settle that by a careful examination. You might take a little specimen off that and not spoil the specimen at all.

Dr. Maddren: I will get Dr. Barber's consent to do so.

Dr. Skene: Do you think you can find any soft tissues there? The calcareous deposit is found in the muscular tissues, is it not?

Dr. Maddren: I think in Dr. Wilson's specimen there had been either a denudation or a fracture, and there was some bony part protruding.

Dr. Skene: But there was evidence that the soft tissues had ossified in that case.

The President: Dr. Maddren, if you get Dr. Barber's consent I hope you will examine the specimen further and report what you find.

Dr. Raymond: I think Dr. Skene and Dr. Jewett are at one on this point of preparing the cervix for dilatation. Dr. Skene spoke of curetting the cervix; Dr. Jewett says he never found it necessary to curette the cervix but simply to remove the secretion of the cervix and then disinfect. I think Dr. Skene simply meant that that was his method of removing the secretion from the cervix when sometimes no other means can be used to get rid of it satisfactorily. Any one who has had to remove secretions from the cervical canal must know the value of the curette. I think Dr. Skene simply means the use of the curette for cleansing purposes.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The following business committee has been appointed by the President of this Soctety, Dr. Herman Bendell, of Albany: Dr. Henry Flood, of Elmira; Dr. L. Bolton Bangs, of New York; Dr. Edward Clark, of Buffalo; to whom communications regarding papers for the next meeting of the Society may be addressed.

An article appearing elsewhere in this number, entitled "A Too Common Affront to the Profession," is of more than ordinary interest to practitioners, and we commend it to their attention.

PROGRESS IN MEDICINE.

GYNÆCOLOGY.

BY WALTER B. CHASE, M.D.

THE MODERN TECHNIQUE OF LAPAROTOMIES.

Döderlein (*Medicinische Wochenschrift*, No. 21, 1893) says all laparotomies, where possible, should be done in a room especially adapted for the purpose. The walls should be coated with enamel paint and the floor with linoleum. The room should be filled with sulphur-fumes and sprayed with water, so that free sulphuric acid is formed.

The instruments, catgut, silk, sponges, etc., are to be subjected to a temperature of 120° to 140° centigrade (dry heat). The instruments may be boiled in the soda solution and afterwards dried with sterilized gauze.

Catgut may be boiled in sublimate alcohol, and repeatedly washed in absolute alcohol until free from sublimate.

The gauze is best sterilized in steam.

The skin of the abdomen should be thoroughly washed with soap and hot water, with free use of the brush, followed with alcohol, ether, and sublimate solution. Just before the operation the skin should be thoroughly rubbed with a sterilized towel.

In the treatment of the stump after a myomectomy, Zweifel recommends continuous intraperitoneal ligature. All bleeding should be stopped, and the edges of the peritonæum should be sutured as soon as possible, thus closing off the abdominal cavity.

Drainage tubes do not drain the entire abdominal cavity, but only that part in which the tube lies.

OPERATIONS UPON THE UTERINE APPENDAGES WITH A VIEW TO PRESERVING THE FUNCTIONS OF MENSTRUATION AND OVULATION.

Polk (*American Journal of Obstetrics*, June, 1893), in reading his paper with the above title before the American Gynæcological Society, at its session held in Philadelphia, May 16, 17, and 18, 1893, reaches the following conclusions:

1. In cases of chronic disease of the appendages the incisions should be in the nature of "exploratory incisions."

2. The question of removal should be in the main left for determination after the organs have been exposed.

3. That the condition of the ovary should be the chief factor in determining the question of procedure.

4. That, if need be, this may be determined by exploratory incision of the ovary or puncture.

5. That if the ovary contains pus, it and the associated tube should be removed, it being the rule that whenever an ovary is removed the tube must accompany it.

6. That if the tube contains pus, the ovary being free from pus or disseminated cystic degeneration, the operator is at liberty to recommend either the removal of both organs or else the partial amputation of the tube, leaving the ovary; and that the same rule shall apply in cases of hydrosalpinx and hæmatosalpinx.

7. That cysts of the ovary do not indicate removal, provided they are not general throughout the organ and can be enucleated —hæmatoma of the ovary a possible exception.

8. Tubes with open infundibula, even though adherent and affected with parenchymatous inflammation and endosalpingitis do not demand removal, excepting when one opens into a pus cavity.

9. A tube whose outer end is closed may be opened, cleansed, and its inner and outer coats coaptated, and then be returned to the abdominal cavity, provided it does not contain pus and possibly old blood.

10. Adhesions do not demand the removal of the tubes and ovaries, unless they be so dense that in breaking them the appendages are seriously injured. This presupposes that the appendages in themselves are not sufficiently diseased to demand removal.

HÆMORRHAGE FROM THE UTERUS.

Dr. Savage (*Med. Press and Circ.;* Vol. LV., No. 2811). Uterine hæmorrhage may be divided into two classes: 1. That associated directly with the uterus itself. 2. That associated with some condition outside the uterus. Under the first group are included chronic metritis, chronic endometritis, fungous endometritis, subinvolution, incomplete abortion, carcinoma, epithelioma, and myomata. Under the second heading are cystomata, extra-uterine pregnancy, and chronic inflammatory diseases of the appendages. In this class are also included obesity, constipation, and some diseases of the heart and liver.

The treatment for uterine hæmorrhage varies with the cause. For diseases of the endometrium, the local application of strong carbolic acid or fuming nitric acid, thermo or actual cautery, the positive or acid pole of a galvanic battery, and curetting are the usual remedies. In incomplete abortion, retained products of conception should be removed by the aid of forceps or curette. In hæmorrhage from cancer of the cervix active methods are advisable, either total extirpation, if practicable, or the removal of as much of the diseased organ as possible by means of the curette or

cautery, in this way often prolonging life several months. For myomata, ligation of the ovarian arteries, or the total extirpation of the organ is indicated.

The use of corrosive application, at least any stronger than carbolic acid, for disease of endometrium, is to be deprecated. W. B. C.

DISEASES OF THROAT AND NOSE.

BY WM. F. DUDLEY, M. D.,

Attending Physician Department Throat and Nose, Dispensary of Long Island College Hospital

ABSCESS OF ANTRUM OF HIGHMORE.

J. Middlemass Hunt (Jour. of Lar., Rhin. and Otol., Vol. vi., No. 9).

Antral disease is general regarded as due to dental caries, or as secondary to nasal disease.

The author has frequently failed to find present the classical symptoms of this disorder. 1. Distension of antrum. 2. Swelling of cheek. 3. Infra-orbital pain. 4. Escape of pus when patient lies on sound side.

The one reliable and ever present sign is a *purulent nasal discharge from concavity of middle turbinates*, escaping either from anterior or posterior nares.

Pain is generally present, and is most often intermittent and located in supra-orbital region. Within the nose is generally found diffuse hypertrophy of middle turbinated, polypoid degeneration or true polypi in middle meatus, membranous hypertrophy near hiatus semilunaris or denuded bone in region of ostium maxillare.

In all cases of unilateral purulent discharge from anterior half of concavity of middle turbinated body without sufficient cause in nostril, such as foreign body or ulceration, it is justifiable to open the antrum.

Voltolini's electric lamp in mouth causing trans-illumination is not an aid of value.

Exploratory puncture through middle or inferior meatus by Pravaz Syringe or Lichtwitz's trocar and cannula is a more reliable method of determining diagnosis.

The best plan of treatment is through alveolar border or tooth-cavity. Drainage should be maintained through a metal tube to prevent closure of the opening.

An opening through the inferior meatus while preventing the discharge from entering the mouth, and particles of food from entering cannula, is objectionable on account of impossibility of thus draining the most dependent portion of antral cavity.

MEMBRANOUS SORE THROAT.

Beverley Robinson, American Laryngological Association.

Under this heading are included all diseases of the throat manifesting a false membrane upon tonsils, fauces, or pharynx.

The question of the existence of two distinct diseases, diphtheria and non-diphtheritic membranous sore throat, is again raised.

The author cites three cases which apparently might be placed in latter class. These patients had slight fever, general malaise, and membrane covering fauces and tonsils, lasting several days. The microscope showed the presence of streptococci, but not the Loeffler diphtheritic bacilli.

For these cases diphtheritic treatment was used successfully.

The author acknowledged inability to satisfactorily differentiate these two diseases—if there were two—and invited discussion. The outline of this is added as of interest, being the views of prominent throat specialists on this important question

Morris J. Asch expressed difficulty in distinguishing two diseases, unless assisted by microscope. Reported cases of membranous sore throat in which local applications only had proved effective.

Jonathan Wright had previously presented cases termed croupous rhinitis, having membrane of benign character. Within a year, however, Baginsky had made public several such cases in which the Loeffler bacillus had been found, yet the patients had no constitutional symptoms This has since been confirmed by Concetti.

This authoritative statement decidedly weakens the testimony of the microscope, as an aid in differentiation.

J. O. Roe believed that in all cases of membranous exudate there is constitutional disturbance. In patients where there is but slight general infection the local signs may be insignificant, yet those cases are quite as contagious as the severer forms, and may give rise to malignant types.

Alex. MacCoy affirms positively the existence of two diseases, one benign and one malignant. Cases in which membranous exudate is marginal and confined strictly to the tonsil belong to the former class. In true diphtheria the membrane, except in very exceptional cases, extends beyond the tonsils.

J. C. Mulhall was also confident of presence of two diseases. Non-malignant membrane may be found in throat of same nature as the benign exudate of mucous membrane of any other part of body. Membranous exudate of throat has been frequently observed as result of recent epidemic influenza. In these cases the membrane was not confined to tonsil, but there was an entire absence of catarrhal inflammation surrounding the edges of membrane.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

A NEW ILLUSTRATED DICTIONARY OF MEDICINE, BIOLOGY AND COLLATERAL SCIENCES. By George M. Gould. P. Blakiston, Son & Co., Phila.

Dr. George M. Gould, already well-known as the editor of two small medical dictionaries, has now about ready an unabridged exhaustive work of the same class, upon which he and a corps of able assistants have been uninterruptedly engaged for several years.

The feature that will attract immediate attention is the large number of fine illustrations that have been included, many of which—as, for instance, the series of over fifty of the bacteria—have been drawn and engraved especially for the work. Every scientific-minded physician will also be glad to have defined several thousand commonly used terms in biology, chemistry, etc.

The chief point, however, upon which the editor relies for the success of his book is the unique epitomization of old and new knowledge It contains a far larger number of words than any other one-volume medical lexicon. It is a new book, not a revision of the older volume. The pronunciation, etymology, definition, illustration and logical groupings of each word are given. There has never been such a gathering of new words from the living literature of the day. It is especially rich in tabular matter, a method of presentation that focuses, as it were, a whole subject so as to be understood at a glance.

The latest methods of spelling certain terms, as adopted by various scientific bodies and authorities, have all been included, as well as those words classed as obsolete by some editors, but still used largely in the literature of to-day, and the omission of which in any work aiming to be complete would make it unreliable as an exhaustive work of reference.

The publishers announce that, notwithstanding the large outlay necessary to its production on such an elaborate plan, the price will be no higher than that of the usual medical text-book.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. Edited by C. E. SAJOUS, M.D., 1893; 5 vols. Phila.: The F. A. Davis Co.

The appearance of this work constitutes one of the annual landmarks in American medical literature. It of course continues to carry out admirably its previous programme. As to the scientific merits of this year's issue it may suffice to say that its well-known standard is fully upheld. With regard to any such work it should be remembered that the elaborate monographs, which are so much more important a channel for the best work in other countries than is the case with us, can rarely be accorded their fair share of attention.

Perhaps the most noticeable change is the new residence of the editor-in-chief (Paris instead of Philadelphia), and the introduction of foreigners on the regular staff. This year we find 18 out of a total of 100, and of course

all of the correspondents are non-residents of the United States. Hence it becomes international in character.

One of the most striking things about it is the absence of Brooklyn men from the staff. A single name, that of Dr. L. S. Pilcher, appears this year, and even that is an improvement, as heretofore we have been wholly left out. Of course if there can be but one Brooklyn man on the staff no one can take exception to the present representative. But the considerable circulation of the work in this country and the goodly list of men here fully up to most of those now included can hardly fail to cause astonishment. On the other hand our Brooklyn physicians may love better the actualities of practice.

WILLIAM BROWNING.

HUMAN ANATOMY. By Henry Morris, M.D., and M. B., Lond. P. Blakiston, Son & Co., Philadelphia.

As a contribution to the literature of the medical sciences, this is a work of undoubted value. The subject is treated in a manner which has obtained of late deserved popularity, namely, the co-laboration of those who have given special study to its several subdivisions. The method is novel, however, as applied to text-books, and can only be successfully applied when edited with more than ordinary care and attention to details. In this respect Morris' Anatomy is open to criticism, and until certain serious defects are corrected it can not hope to displace or even compete with the standard text-books now in general use.

It has some excellent features, as, for instance, the almost entire elimination of histological detail and the description of structures with a view to their function, while its grouping and consideration of muscles with reference to their action rather than their location is a real reform. For a text-book, however, it presumes too much upon the possession, on the part of the student, of a certain amount of anatomical knowledge; it makes too many unnecessary and, indeed, indefensible changes in a well established nomenclature; it gives too great prominence to the description of unimportant anomalies, and does not observe a proper uniformity, throughout, in its standard of measurement and methods of description.

But having boldly entered a field already so well occupied, possessed of real merit, it is to be hoped that it will, in future editions, purge itself of these defects, and attain the place which its eminent authorship would warrant.

The form and style of its publication cannot be too highly commended.

WILLIAM W. BROWNING.

MISCELLANEOUS.

TEXAS FEVER.

The most valuable contribution to the subject of this disease which affects cattle to such an alarming extent, has just been made by Drs. Salmon, Smith and Kilborne, of the United States Bureau of Animal Industry. Their labors, which have extended through a

period of several years, seem to have definitely settled the ætiology of the "fever," and also of its treatment. They have determined that it is not due to bacteria, and have shown that the theories of Stiles, as published in the Report of the Metropolitan Board of Health for 1868, of Dr. Frank S. Billings and others are not based on fact. The experimental work is of the highest kind and dermonstrates the wisdom of the conservative principle of keeping in office men who are competent and skilful no matter what the political complexion of the adminstration may be.

The conclusions to which these investigators have arrived are as follows:

(1) Texas cattle fever is a disease of the blood, characterized by a destruction of red corpuscles. The symptoms are partly due to the anæmia produced; partly to the large amount of débris in the blood, which is excreted with difficulty, and which causes derangement of the organs occupied with its removal.

(2) The destruction of the red corpuscles is due to a microörganism or micro-parasite which lives within them. It belongs to the protozoa and passes through several distinct phases in the blood.

(3) Cattle from the permanently infected territory, though otherwise healthy, carry the micro-parasite of Texas fever in their blood.

(4) Texas fever may be produced in susceptible cattle by the direct inoculation of blood containing the micro-parasite.

(5) Texas fever in nature is transmitted from cattle which come from the permanently infected territory to cattle outside of this territory by the cattle tick (*Boöphilus bovis*).

(6) The infection is carried by the progeny of the ticks which matures on infected cattle, and is inoculated by them directly into the blood of susceptible cattle.

(7) Sick natives may be a source of infection (when ticks are present).

(8) Texas fever is more fatal to adult than to young cattle.

(9) Two mild attacks or one severe attack will probably prevent a subsequent fatal attack in every case.

(10) Sheep, rabbits, guinea-pigs, and pigeons are insusceptible to direct inoculation. (Other animals have not been tested).

(11) In the diagnosis of Texas fever in the living animal, the blood should always be examined microscopically if possible.

MEDICAL WORTHIES.

The Editorial Committee desires to express its thanks to Dr. J. H. Hunt for one of the most attractive features of the JOURNAL, the portraits of the medical worthies of the olden time, with the sketches of their lives, which have been prepared by him for several years. That they are appreciated by the profession generally is shown by the frequent commendations which they elicit from physicians all over the country.

In this issue Dr. Hunt has given us the portraits of two men who are comparatively unknown to medical fame, but who are of the highest type of literary eminence.

John Locke did not take up the study of medicine until middle life, when he had passed the age when the proverb says "every man is either a physician or a fool by forty;" but Smollett, like Goldsmith, seems to have made a failure of medical life while young.

WILLIAM R. WARNER & CO., GIVEN THE HIGHEST COLUMBIAN AWARD.

W. R. Warner & Co., of Philadelphia, have obtained the highest prize for "the purity and perfection of their medicinal and officinal standard pharmaceutical and chemical products."

This extensive firm have obtained hitherto twelve grand World's Fair prizes, and they must feel deservedly proud of the Columbian award, which is the highest of its class.

BERMUDA.

Dr. J. B. Mattison will conduct a party of physicians, the number limited to twelve, to Bermuda, on January 3, 1894, for a ten days' excursion. Those desiring to join this party should communicate with him.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the December meeting, Dr. H. C. Riggs will read a paper entitled, "Induced Labor as related to Puerperal Eclampsia."



TOBIAS SMOLLETT.

Better known as a historian, novelist, and even as a poet, than as a member of the medical profession, is Tobias Smollett, who was born on the banks of the river Leven, in Scotland, in 1720.

However, he having received a classical education, became a physician, though from what university he obtained his degree, the writer has been unable to learn.

Of his professional life we know little, except that he served as surgeon or surgeon's mate on board of a ship of the line, and sailed on the unfortunate expedition to Carthagena, which he described in his "Roderic Random," and afterwards more historically in a "Compendium of Voyages," published in 1756.

Disgusted with the result of the expedition, and with his life aboard ship, he quitted the service while his ship was in the West Indies, and resided for some time in Jamaica, it is supposed, supporting himself by the practice of medicine.

The most we know of his life there is that soon after his return to London he married a West Indian lady whose acquaintance he had made, and whom he had courted in Jamaica.

His tragedy of the "Regicide" was written before he had reached his eighteenth year, though it was not until nearly ten years after that it was made public. His preface to this may yet be read with advantage by candidates for stage favor, for Dr. Smollett's experience with theatrical managers was not unlike that of many would-be playwrights to-day.

After his marriage he lived principally by the resources of his pen, and in 1848 produced the "Adventures of Roderic Random," which was the most successful of all his writings, and perhaps the most popular novel of the age, partly owing to the notion that it was in many respects a history of his own life. In "Humphrey Clinker," he describes with picturesque enthusiasm, the scenery among which he passed his boyhood days. In his "Peregrine Pickle," he satirised Dr. Akenside as the republican doctor.

These are but a few of the novels, poems, translations, histories, etc., which this distinguished man wrote, but he seems to have by his satire and prejudices made many enemies, so that he was probably during his literary life the subject of many attacks and criticisms from other literary men whom he had offended. For instance, he is the Dr. Smell fungus of Stearn's "Sentimental Journey."

After the publication of "Peregrine Pickle," he appears to have had a design of resuming his medical profession, and endeavored to establish himself at Bath, and published a tract on "The External Use of Water." In this, his object was to prove that pure water, both for warm and cold bathing, may be preferred to waters impregnated with minerals, except in certain cases where the vapor bath is requisite.

Whatever was thought of this pamphlet, he failed in his principal object. He had indeed, obtained considerable fame, as his own complaints and the contemporary journals plainly evince; but it was not of that kind which usually leads to medical practice.

His "Complete History of England" is said to have been composed and finished for the press in the short space of fourteen months. By this publication he is said to have cleared £2000.

He died in the neighborhood of Leghorn in 1771, in the 51st year of his age.

J. H. H.